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Helping Students Graduate: An Examination of the Services Provided by a Dropout Prevention Program

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

HELPING STUDENTS GRADUATE: AN EXAMINATION OF THE SERVICES PROVIDED BY A DROPOUT PREVENTION PROGRAM

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The Alliance for Excellent Education (2011) estimates every 26 seconds in America, a student drops out of school. Numerous intervention and prevention approaches have been implemented to reduce the incidents of school dropout. One program, Communities In Schools (CIS), has shown promise in impacting the issue of school dropout by attending to both academic and non-academic factors at play in influencing a student's risk for dropping out. The primary aim of this secondary data analysis was to develop an increased understanding of CIS services, to explore whether service provision varies systematically in relation to student outcomes and student characteristics, and to gain initial understandings of whether service provision is related to end-of-year outcomes. The volume of services provided was examined in terms of the number of service categories received and the amount of services (in hours) received. Bivariate statistical tests were used to examine the differences in the two service volumes based on student

characteristics and prior year outcomes. The findings suggest that the total number of services received and the total number of hours of services received does not significantly vary by student characteristics or prior year outcomes. However, significant differences were found in the number of hours of distinct service categories and prior year outcomes. Multiple regression analyses were employed to examine in what ways services were related to student outcomes. The findings indicate that specific services are associated with better outcomes. Practice and future research implications are discussed.

CHAPTER 1

Overview

The outcomes and consequences of school dropout are dramatic and compelling. The Alliance for Excellent Education (2011) estimates that 7,000 students drop out of school every school day. Dropout rates are disproportionately higher for racial and ethnic minority students; approximately 5% of White youth, 7.3% of Black youth, and 13.6% of Hispanic youth dropped out of high school in 2011 (Snyder & Dillow, 2013). The rates are also disproportionately higher for students from low-income families; approximately 13% of youth from low-income families dropped out of high school in 2011 as opposed to 2.3% of their peers from wealthier families (Snyder & Dillow, 2013).

There are also severe economic implications from dropping out of high school. On the average, high school graduates earn $9,932 more per year than those who did not complete high school (Bureau of Labor Statistics, 2015). Not only do those who drop out earn less, but they are also at an increased risk for unemployment. Point-in-time estimates suggest that 66% of individuals who do not have a high school diploma are either unemployed or not in the labor force (Snyder & Dillow, 2013). This decreased earning potential and increased risk to unemployment may eventually lead to a greater dependence on social services.

Students who drop out of school have a greater need of welfare benefits and have an increased likelihood of health problems (Burzichelli, Mackey, & Bausmith, 2011) that translate to a life expectancy that is nearly a decade shorter than those who graduate from high school (Gibbons, 2006). Those who drop out of school are three and one-half times more likely than

high school graduates to be arrested, and currently more than 70% of America's prison population consists of individuals who dropped out of high school (Fight Crime: Invest In Kids, 2011). The Alliance for Excellent Education (2013) has determined that an increasing graduation rate of male students in the United States by just 5 percentage points could lead to a combined savings and revenue of almost $18.5 billion each year by reducing crime-related costs. High school dropout is clearly a social issue that can have far-reaching and lasting consequences.

There is a growing recognition in the field of school reform that the issue of school dropout cannot be solved by simply addressing issues within the school building (Rumberger, 2011). The risk factors for school dropout extend beyond the building to the family, neighborhood and community. The complex and dynamic nature of this issue requires an approach that addresses both academic and non-academic factors that may impede a child's success in school. A variety of intervention approaches have been implemented toward this end. One program, Communities In Schools (CIS), has shown promise in impacting the issue of school dropout by attending to both academic and non-academic factors at play in influencing a child's risk for dropping out. Evidence from a national evaluation and internal end of year reports suggest that the CIS model is working to reduce incidents of school dropout. However, there is a need for deeper understanding of what, within the model, is working best, with whom and in what circumstances. Only by assessing the evidence for the CIS model can further improvements be accomplished and decisions made about which services, or combinations of services, will work to further reduce the incidents of school dropout.

The primary aim of the current secondary data analysis is to develop an increased understanding of CIS services' relationship to student outcomes by exploring whether service

provision varies systematically in relation to student outcomes and student characteristics. The research questions for this study are:

1. What intervention services (referred to as Level Two) are provided to students by Communities In Schools (CIS)?
2. Do CIS Level Two services vary by student characteristics and prior year outcomes? If so, which student characteristics and prior year outcomes are related to provided services?
3. To what extent do CIS Level Two services relate to student outcomes by the end of the school year?

Background: School Dropout Prevention

The term "dropout" first appeared in the literature in the late 1940s (Dorn, 1993). By the 1960s, when graduation from high school became an expectation for all youth, concern arose among scholars about those who did not finish high school. Research literature focused on the problem of school dropout was characterized by five themes at that time: "equating the dropout problem with unemployment, linking it with urban poverty, using the language of juvenile delinquency, assuming that dropouts were male, and asserting that psychological defects were a primary distinction between dropouts and graduates" (Dorn, 1993, p. 363). Between the 1980s and early 2000s, multiple studies examined risk factors as well as causes of dropping out of school. These early research efforts, responding to the belief that dropping out was the fault of individuals, correlated demographic and behavioral characteristics associated with dropping out (Stout & Christenson, 2009).

More recent studies are generally based on two perspectives: an *individual perspective* that focuses on factors such as students' attitudes, behaviors, school performance, and prior

experiences, and an *institutional perspective* that focuses on the contextual factors found in students' families, schools, communities, and peers. Researchers have attempted to both define and examine the impact of various risk factors on school dropout (Barrington & Hendricks, 1989; Gleason & Dynarski, 2002; Janosz, Le Blanc, Boulerice, & Tremblay, 1997; Jimerson, Egeland, Sroufe, & Carlson, 2000; Rush & Vitale, 1994), and while much is now known about these risk factors, the general consensus is that school dropout cannot be predicted by a single risk factor (Rumberger, 2011). Furthermore, dropping out of school is not an event, but rather the end result of a long-term process that may have begun even before a child entered school (Jimerson et al., 2000). Studies have also examined the salience of various risk factors at different junctures in a child's life and found that indeed, not all risk factors have a similar impact on students throughout their lives (Alexander, Entwisle, & Kabbani, 2001; Jimerson et al., 2000). In fact, researchers found that early risk factors and events interact with later events and can change a child's educational progress (Jimerson et al., 2000). These youth drop out of school for a variety of reasons, and often the antecedent is a very complex, dynamic interplay of multiple factors and events. In other words, school dropout may be misrepresented as a *problem*, and may be more accurately "…viewed as the end result or *symptom* of the other problems which have their origin much earlier in life" (Rumberger, 2011, p. 145).

The complex nature of school dropout calls for prevention efforts to attend to the myriad factors in various contexts that lead to and may sustain school failure for students. To this end, there have been many models, programs, and approaches to addressing the school dropout problem. One of the most commonly used approaches at present is the Community In Schools (CIS) program.

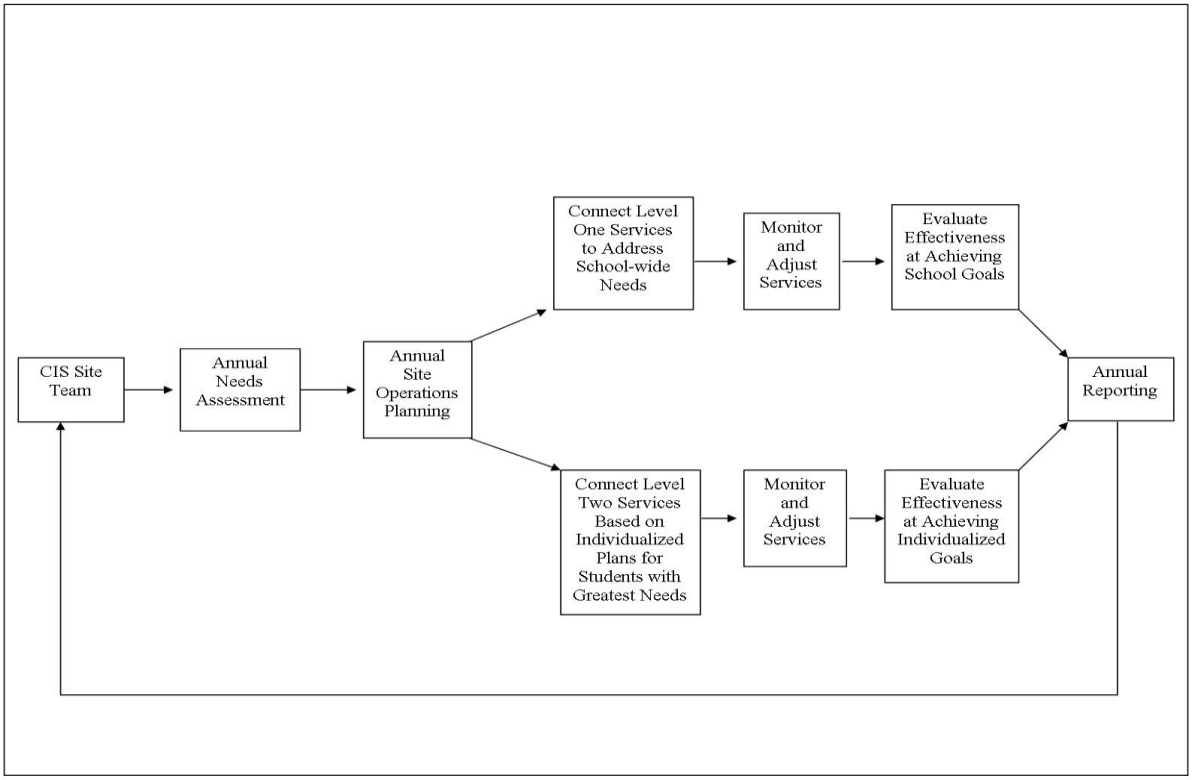
Communities In Schools

The story of Communities In Schools began in the streets of Harlem in the 1960s. Bill Milliken and his colleagues opened a series of "Street Academies" for youth who had dropped out of school but wanted to achieve their high school diploma. Through his work in the "Street Academies," Milliken saw the need to develop a safety net that would provide resources and assistance to underserved youth *before* they left school. He and his colleagues realized they needed to connect community resources with the students who needed those resources in the schools, as opposed to students and families having to go outside of the school and navigate the maze of public and private services. In 1977, Milliken and his colleagues were able to realize their efforts and Communities In Schools, then called Cities In Schools, was born (Milliken, 2007). CIS is now a nation-wide network of 161 local affiliates that serves over 1.4 million students in 2,300 schools across 26 states and the District of Columbia each year (Communities In Schools [CIS], 2015). Their mission is to "surround students with a community of support, empowering students to stay in school and achieve in life" (Communities In Schools [CIS], 2012, p. 3). The work of CIS is guided on the principle that every young person needs five basics: (1) a one-to-one relationship with a caring adult; (2) a safe place to learn and grow; (3) a healthy start in life; (4) a marketable skill to use upon graduation; and (5) a chance to give back to peers and community.

The heart of the CIS model is a site coordinator who is based in a school and works with the school staff to identify students at risk of not graduating; assess school and student needs; and establish relationships with local businesses, social service agencies, health care providers, and parent and volunteer organizations to harness needed resources. The CIS model begins with the CIS site team which is comprised of the CIS site coordinator, school administrators, staff,

teachers, community partners, and volunteers (see Figure 1).The members each have defined roles and responsibilities based upon the annual site operations plan. Each year, the site coordinator conducts an annual school needs assessment using data from multiple sources such as school report cards, school improvement surveys, and discussions with staff, parents, and students. The goal of the annual school needs assessment is to identify the current needs of the students, gaps in services, and potential resources to meet those needs. The site coordinator discusses the results of the annual school needs assessment with the school's administration and together, the needs are prioritized and the annual site operations plan is created to address those needs. The annual site operations plan serves as a roadmap for the brokering and delivery of Level One and Level Two services and includes measurable objectives, procedures for monitoring and adjusting services, and evaluating and reporting effectiveness. Level One services (prevention services) are generally short term in duration and are intended to address school-wide needs as well as to build and reinforce student assets consistent with the CIS five basics (e.g., school health fairs, attendance incentives, motivational speakers). Level Two services (intervention services) are targeted and sustained for longer periods of time through an integrated case management process (e.g., individual counseling, home visits, tutoring). Level Two services are also provided with the CIS five basics in mind. The process is cyclical, with the evaluative information from one year being used as part of data-driven decision making for the next year of implementation.

Figure 1. The CIS Model



Level Two Services. During the creation of the annual site operations plan, each school delineates the referral process that will be utilized to identify students who will receive Level Two services. Referrals for Level Two services may come from teachers, school administrators, Core Teams, parents, and even students themselves. Using the risk factors for school dropout that have been ascertained by the National Dropout Prevention Center (see Hammond, Linton, Smink, & Drew, 2007), students are identified as having the greatest risk for dropping out of school and are referred for Level Two services. The annual site operations plan also describes how the referral process and risk factor information will be conveyed to the school faculty as well as the number of Level Two students who will be served.

Once a child is referred for Level Two services, the site coordinator obtains parent/guardian consent and completes an individual assessment with the parent or guardian and

the child. Student participation in CIS is voluntary and requires that each student's parent or guardian agrees to the participation. In addition, the permission letter gives CIS authority to refer the student to community service providers as needed. The site coordinator creates an Individualized Service Plan (ISP) with the parent or guardian and student that addresses the student's needs with a holistic and coordinated approach to service delivery. The ISP is designed to achieve one or more tracked outcomes such as: improved academic performance, improved attendance, improved behavior, decreased suspensions, increased attitude and commitment towards school, or decrease high risk social behavior. The ISP must address at least one of the aforementioned outcomes; although the site coordinator can decide to add additional goals that are not on that list (e.g. improve organizational skills). Each ISP includes the assessed risk factors, individualized goals/objectives, and the services and resources that will be provided along with a timeline. Level Two services may be provided directly by the site coordinator, or may be brokered and provided by a community agency. The site coordinators strive to use a combination of proven strategies as identified by the National Dropout Prevention Center (NDPC) to address the risk factors present in a student's life. Periodic re-evaluation is also a component of the ISP because a student's situation and subsequent needs may change often.

The documentation of the activities and services site coordinators perform is viewed as being nearly as important as the actual activities and services themselves. The CIS National office designed and developed a secure web-based data management system called CISDM (Communities In Schools Data Management) which houses all of the client records and service notes for all Level Two services rendered. Site coordinators are required to enter on a daily basis all Level Two services that are provided to each student which includes, the dates and hours of service, what services took place, and a description of the service. Additionally, site coordinators

enter the outcome data into CISDM for all Level Two students. CIS National requires the following outcome data for all Level Two students: number promoted, retained, dropped out, and as applicable, the number who graduated and their post-secondary plans. The site coordinators also note whether or not each Level Two student achieved his or her individualized goals. While CIS specifies that each Level Two student's ISP must address at least one of the pre-determined goals (i.e. improved academic performance, improved attendance, improved behavior, decreased suspensions, increased attitude and commitment towards school, or decrease high risk social behavior), they do not specify the criteria for meeting that goal. In other words, one student may have an academic goal to raise all of her failing grades to a C, whereas another student may have an academic goal to make the honor roll during the 2nd quarter. The complex nature of dropout prevention does not lend itself to a "one size fits all" approach, therefore CIS acknowledges that each child's background, current life situation and needs calls for different types of services, levels of attention, and appropriate goal setting.

Purpose of Study

End of year internal reports consistently demonstrate CIS's success in promoting student success among students who receive Level Two services (CIS 2007, 2008, 2009, 2010, 2011, 2013). During the 2013-2014 school year, 99% of Level Two students stayed in school, 93% were promoted, and 91% of the eligible seniors graduated (CIS, 2015). In addition, a 5-year quasi-experimental evaluation conducted by ICF International found that high schools who implemented the full CIS model (Level One and Level Two services) had 4.8% higher graduation rates across 3 years post-CIS implementation than the comparison schools (Porowski & Passa, 2011). While there is considerable evidence that providing Level Two services to students' leads to improved outcomes, there is little known about what types of services are

actually provided and how the various types and patterns of services that are offered may influence student outcomes. The current study proposes to examine Level Two service data of middle school students (grades 6-8) through a secondary data set made available by the Communities In Schools of Central Texas, Inc. affiliate. The primary aim of this study is to develop an increased understanding of Level Two services, to explore whether service provision varies systematically in relation to student outcomes and student characteristics, and to gain initial understandings of whether service provision is related to end-of-year outcomes.

Several studies have examined the effectiveness of various strategies and interventions used by CIS, such as tutoring (Hammond et al., 2007), service learning (Bridgeland, DiIuli, & Wulsin, 2008), and mentoring (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). However, the CIS model goes beyond more traditional services to include services such as: securing basic resources for a child and his or her family, providing group counseling on life skills and teen pregnancy prevention, and taking students on field trips. Taken together, the array of services offered address both academic and non-academic barriers to a student's success in school. Currently, there are no known studies that have investigated the relationship between these types of services and student outcomes. Scholars in the areas of resiliency research (Smokowski, 1998; Werner, 1993, 2000) and positive youth development (Lerner, Brentano, Dowling, & Anderson, 2002) have suggested the positive role that a caring adult can have on child outcomes. The CIS model emphasizes the importance of a child developing a relationship with a caring adult, and the role the site coordinator plays in meeting that need with Level Two students. Therefore, a positive relationship with an adult is an implicit part of CIS service provision.

Importance of this Research

Conventional wisdom holds that youth who experience greater amounts of services should demonstrate improved academic, behavioral, and socio-emotional outcomes. The answer from existing research, however, is less clear. In an era of scarce resources and limited funding, it has become critical for programs to become strategic in their allocation of resources. Programs are often challenged to make difficult decisions regarding the types and amounts of services provided based upon their funding capabilities. Without the benefit of having data or evidence, program managers and grant writers may not be able to adequately advocate for the necessary resources. The findings of this project are an important first step towards gaining a better understanding of "what works" to begin helping programs make evidence-informed decisions regarding the allocation of resources.

For the field of social work, which has been intricately linked to education for more than a century, this study will also provide valuable information for those working in K-12 schools. Although many of the site coordinators are social workers, the work that site coordinators do every day is very similar to that of school social workers. School social workers provide a variety of services including case management, individual, group, and family counseling, and teacher and classroom support (Allen-Meares, Montgomery, & Kim, 2013). Since the passage of the No Child Left Behind Act (NCLB) of 2001 and the Individuals with Disabilities Education Improvement Act of 2004, school social workers have become integral players in school-wide efforts to meet the demands placed on schools by the aforementioned legislation. NCLB specifically requires school social workers to use scientific, research-based interventions (Peckover, Vasquez, Van Housen, Saunders, & Allen, 2013). Yet, very few social work interventions conducted in schools actually measure their impact on academic performance. In a

meta-analysis of school social work interventions by Staudt, Cherry, and Watson (2005), of the 32 studies reviewed, only six reported on the impact of the interventions on academic performance. The findings from this study could be an initial step towards informing school social workers of effective interventions for academic outcomes.

Conclusion

Education has often been described as the "great equalizer." In fact, President Obama has called education one of the best anti-poverty programs (Obama, 2010). While significant gains have been made for some in our country, there are troubling disparities for minority and low-income students. In order to address many of the social and economic injustices in our country, we need to begin by ensuring that all children are afforded the supports needed in order to graduate from high school.

For more than 30 years, CIS has worked with low-income K-12 students most at risk of failing or dropping out of the nation's poorest-performing schools. A national evaluation, completed in 2011, suggests that youth who receive CIS services are more likely to achieve a number of positive outcomes than those who do not receive CIS (Porowski & Passa, 2011). However, additional information is needed to further understand how various services impact student outcomes. This project seeks to deepen that understanding by investigating whether Level Two service provision varies systematically to student outcomes and student characteristics. A literature review follows to provide a foundation of the empirical, conceptual, and theoretical factors associated with dropout prevention, and the methodology of this investigation is then detailed in chapter three. Chapters Four and Five present the results of the analyses, and Chapter Six discusses the findings and the implications of this study.

CHAPTER 2

Review of the Literature

This chapter provides an overview of the literature on risk factors and early warning indicators related to school dropout, and presents information about school-based dropout prevention programs or interventions. School-based programs are defined as those that were administered under the auspices of school authorities and delivered during school hours by either school personnel or a community service provider. A special focus is placed on programs that employ one of the specifically addressed recommendations by the Institute for Education Sciences' Dropout Prevention Practice Guide: the assignment of an adult advocate to at-risk students (Dynarski et al., 2008). General themes about the content, theoretical basis, target population, and research design of the dropout prevention programs in this review are identified and explained. The prevention programs' effects on school dropout and high school completion is also presented and discussed. Finally, the researcher discusses how this literature review influenced the theory, content, and measures used for this study.

Risk Factors and Early Warning Indicators

Researchers have spent the better part of the last four decades examining the various risk factors for school dropout. Some studies have attempted to define a set of risk factors with a strong enough predictive power to develop a profile of a typical dropout (Barrington & Hendricks, 1989; Janosz, Le Blanc, Boulerice, & Tremblay, 1997; Janosz, Le Blanc, Boulerice,

& Tremblay, 2000; Lloyd, 1978) or to look for an efficient risk factor with a high predictive ability (Gleason & Dynarski, 2002). Others have developed a profile of elementary students who are at risk for school failure and dropping out of school in order to identify these students early and provide appropriate interventions (Rush & Vitale, 1994). Hammond, Linton, Smink, and Drew (2007) analyzed twenty-five years of literature and determined high school dropout cannot be predicted by one single risk factor, but the most prevalent risk factors could be classified into four levels of ecology: individual, family, school, and community (Appendix A). While these risk factors are a helpful tool to identify students at risk for school dropout, scholars have also noted that it is the accumulation of risk, or the sheer number of adversities confronted by students, which seems to disrupt normal developmental trajectories rather than the presence of a specific risk factor (Rutter, 1987; Whipple, Evans, Barry, & Maxwell, 2010). In other words, the presence of one risk factor over another in a student's life is not as significant as the number of risk factors present in a student's life.

The challenges and barriers that students face in their homes, communities, and school environments typically manifest themselves in the students' grades, attendance, and behavior. Years of prior data for students who eventually dropped out of school have indicated that a significant number of students exhibited early warning signs in their educational performance as early as sixth grade. For example, one study examined a group of sixth-graders and found that for those who attended school less than 80% of the time, only 13% graduated on time and another 4% graduated one year later (Balfanz, Herzog, & Mac Iver, 2007). Another study determined that students who were retained in the first grade were seven times more likely to dropout than non-retained first grade students, and those who had repeated a grade in middle school were ten times more likely to dropout than those who were not retained (Alexander et. al.,

2001). Researchers and school systems are increasingly focusing their attention on these Early Warning Indicators (EWIs) in order to identify students who may be at risk for dropping out of school. The EWIs revolve around three key areas of a student's educational performance, aptly given the acronym ABC—attendance, behavior, and course failure. The key indicators are: poor grades in core subjects; low attendance; failure to be promoted to the next grade; and, poor classroom behavior and engagement (Balfanz et al., 2007).

Researchers have further asserted that dropout prevention efforts should begin in middle school. A study conducted by Balfanz (2009) and the Everyone Graduates Center at Johns Hopkins University found that most students who eventually left school were failing either math or English (not both) and had either an attendance or behavior indicator in the sixth grade. They further found that a significant subset of students had just one indicator: failing a single class, not attending school regularly, or misbehaving. This suggests that students in the sixth grade are entering the trajectory towards school dropout from different avenues. Balfanz (2009) contends these avenues appear to follow basic human reactions to uncomfortable environments. "The students are fleeing (not coming to school), pushing back (acting out), or withdrawing (coming to school and behaving, but not paying attention or engaging)" (Balfanz, 2009, p. 5).

There is a debate around whether a student's grades, behavior, or promotion is a true indicator of a student's success in school (Guskey, 2000). Indeed, studies have shown that teachers can have a bias against some students who the teacher perceives as lacking intelligence or lacking motivation (Hinnant, O'Brien, & Ghazarian, 2009). However, the use of risk factors to identify students in need of dropout prevention efforts can be particularly difficult because of their very nature; some risk factors may not be known at the time of referral, the absolute "risk" of a factor can be dependent on the individual's developmental level, and, it is accumulation of

risk that may negatively affect a student's trajectory. While the use of grades, behavior, and promotion may contain an inherent bias as an indicator of student success, researchers contend that they have a higher predictive ability than the use of individual risk factors associated with dropping out of school (Balfanz et al., 2007; Kennelly & Monrad, 2007).

Gleason and Dynarski (2002) assert that previous approaches to develop checklists that include characteristics of students with risk factors associated with dropping out have yielded a predictability rate of approximately 30%. Early warning indicators, on the other hand, have a much higher predictive ability. In one study, Balfanz and colleagues (2007) examined data of 12,972 students in a Philadelphia School District over the course of eight years and found that an increase in the number of EWIs present in the sixth grade significantly decreased the likelihood the student would graduate. Specifically, 56% of the students who had no EWIs graduated within one year of their expected date. Yet, only 36% of the students with one EWI, 21% of the students with two EWIs, 13% of the students with three EWIs, and 7% of the students with four EWIs graduated within one year of their expected date. They also examined the predictive power of each EWI and found that, when controlling for the student's race and other EWIs, students with low attendance were 68% less likely than other students to graduate, those with poor behavior were 56% less likely to graduate than others, those who failed math were 54% less likely to graduate than others, and those who failed English were 42% less to graduate than others. As more school systems are implementing Early Warning Systems to track EWIs and strategize dropout prevention efforts around that data, it would be advantageous for school-based social work interventions to align their data collection with the school systems. Therefore, the programs discussed in this literature review collected outcomes consistent with the EWIs.

Levels of Prevention

Numerous efforts are underway to reform our educational system, and the debate continues among policy-makers, educators, and researchers of the most effective and efficient ways to educate youth. The field of dropout prevention is vast, and it tends to straddle the realms of education and other social science disciplines providing interventions such as social work and psychology. These two camps utilize different language to differentiate the scope and focus of their interventions.

Within the education community, one method to classify approaches that seek to increase graduation rates and decrease dropout rates incorporates the entire spectrum of possibilities from targeting individual students to policy changes. This method delineates three approaches: targeted, comprehensive, and systemic (Rumberger, 2011). Targeted approaches target students identified as most at-risk for dropping out of school and either deliver supplemental services within an existing school program or by providing an alternative school program. In the targeted approach, there is some mechanism used to identify the students who are most at-risk of dropping out of school, and those students are provided a series of academic and social support to help them succeed in school. The comprehensive approach focuses on reforming or creating entirely new schools under the belief that targeted programs do not reach enough students to effectively improve the graduation rate or dropout rate. The comprehensive approach generally takes on one of three forms: adopting a comprehensive school reform model; create a new school, generally in the form of a charter school; or, create collaborative relationships between schools and outside organizations. The systemic approach focuses on making changes to the entire educational system within the federal, state, or local level of government under the belief that you need to change the entire school system to effect change. The systemic approach

generally focuses on improving overall student achievement, which in turn, will increase graduation rates and decrease dropout rates (Rumberger, 2011). Many of the federal initiatives and funding from the Department of Education utilize this language, and in particular, those initiatives tied to the No Child Left Behind Act.

The education community has embraced another method of classifying programs that utilizes a three-tiered public health prevention approach: primary, secondary, and tertiary prevention strategies (Mac Iver & Mac Iver, 2010). Primary prevention strategies focus on district and school-wide policy changes and reforms aimed at providing high quality instruction that promotes high school completion for all students. Primary prevention strategies typically include a whole school approach to encouraging regular attendance and other positive behaviors. Secondary prevention strategies target interventions on small groups of students who need additional supports beyond the school-wide reforms to address attendance, behavior, or academic issues. Tertiary prevention strategies provide intensive interventions to students who need more clinical types of supports. Tertiary strategies are typically delivered one-on-one to students (Mac Iver & Mac Iver, 2009). This three-tiered prevention intervention approach is similar to the Response to Intervention (RTI) model and to Positive Behavior Intervention Supports (PBIS) models; however, this model emphasizes an integrated approach to academic and behavioral problems that is not generally seen in implementations of RTI or PBIS. Furthermore, RTI has been primarily used at the elementary level to identify students with learning disabilities (Mac Iver & Mac Iver, 2010).

The prevention and intervention community utilizes another three-tiered approach that is from the public health field: universal, selective, and indicated prevention interventions (Johnson, 2002). Universal prevention interventions target the general public or a whole

population group that has not been identified on the basis of an individual risk. They can be delivered to the whole school, usually in a classroom setting by a teacher, social worker, or school counselor (Allen-Meares et al., 2013). Universal interventions are generally intended to promote positive outcomes and prevent or reduce negative outcomes across the majority of the student body. Selective prevention interventions target individuals or a subgroup of the population whose risk of developing a disorder or negative outcome is higher than average. Selective interventions may include small group counseling on a specific topic. Indicated prevention interventions target high-risk individuals who are identified as having early detectable signs or symptoms of a disorder or negative outcome (Johnson, 2002).

Although some dropout prevention programs identify their target audience based on one of the aforementioned levels of intervention, others do not specify a target audience. In order to provide consistency throughout the review, all three forms of intervention levels are identified for each program. While the intervention level noted in the review may not be congruent with the author's intention, the identification was made based upon the information available.

Review of Dropout Prevention Programs

The focus of this review is on qualitative and quantitative studies that evaluated school-based dropout prevention programs or interventions. School-based programs are defined as those that were administered under the auspices of school authorities and delivered during school hours by either school personnel or a community service provider. In order to provide some uniformity to this review, the articles were filtered to studies that focused on the same level of intervention as the program in this study. Therefore, this review includes studies of targeted interventions, tertiary prevention, or indicated interventions as opposed to comprehensive or systemic models, primary or secondary prevention, or universal or selective interventions. The

studies must have investigated outcomes for interventions directed toward school-aged youth, in other words those expected to attend pre-k to 12th grade primary and secondary schools. In addition, the studies must have reported at least one outcome variable that represented an EWI, or school completion or dropout for those studies investigating high school students. Furthermore, the studies must employ one of the specifically addressed recommendations by the Institute for Education Sciences' Dropout Prevention Practice Guide: the assignment of an adult advocate to at-risk students (Dynarski et al., 2008).

The studies were analyzed to determine their general methodology, length of study, population, and theoretical framework (See Table 1). The methodologies among the studies were fairly distributed. Three of the studies were experimental, four were quasi-experimental, two were pretest-posttest design, and one was a phenomenological study. A majority of the studies were longitudinal, ranging from 4 to 6 years in length. Three of the studies were conducted within a school-year. It is interesting to note that one of the studies that was conducted in one year did not find any improvement in their outcomes, and the other study that was conducted in one year had mixed results. This could indicate the need for longitudinal programs and interventions in order to effect change in the dropout rates. Conversely, one of the programs that was conducted over 5 years also did not achieve successful results. This particular program was slightly outside the realm of the other programs because it was a combination of during and after-school, with the majority of the programming taking place after school. This could indicate the importance of school-based interventions.

Table 1. Summary of Dropout Prevention Programs

Author(s)	Sample	Intervention(s)	Theory	Research design and measures	Findings
Allen & Philliber, 2001	3,277 high school students (grades 9-12) across 60 sites	Counselor or social worker facilitates community service and other group discussions and activities related to key social and developmental tasks of adolescence over a single school year	• Empowerment perspective • Positive youth development framework	• Quasi-experimental design over 4 yrs • Problem Behaviors- Self-report questionnaires at entry and exit	• Course failure significantly declined at post test (β = -.14) • Suspensions from school significantly declined at post test (β = -.18)
Charney, 1993	248 elementary and middle school students (grades 2nd-6th)	Students placed in groups that are comprised of student leaders as well as those targeted for intervention. Groups are facilitated by MSW students. Groups have deliberate racial and ethnic diversity. Program also includes behavior contracts that are monitored by teachers, home visits and referrals to other agencies.	• Behavior theory • Social Learning theory	• Quasi-experimental over a 6-year study period • Academics- GPA and grades • Citizenship average (did not state how obtained or measured) • In-group behavior- scored on a 1-10 scale after the fourth session and end of the year	• GPA- 30% improved averages from D to C • Citizenship grades- mixed results (36% improved, 47% did not improve, 17% decreased) • In-Group behavior improved (87% improved by mean of 16 points and 8% decreased) *Note*- none of the findings reported significance levels
Colvin, Lee, Magnano, & Smith, 2008	606 elementary school students (grades K-5)	Social worker leads the process and facilitates the service delivery, but the student leads the identification of the target goals for intervention and the formation of a collaborative team that the student names. The social worker assigns team members responsibility for specific tasks with the primary goal being to overcome the barriers to school success.	• Task-centered model	• One-group prettest- posttest over 4 years • Academic achievement- 1st to 4th quarter grades (reading, spelling, speaking/listening, math, social studies, science, and the overall average) • Parent report of behavior problems- Behavior Rating Index for Children (BRIC) • Teacher Report Form (TRF)	• Grades increased from baseline to termination in all course subjects, with all but math grades having statistically significant changes (*t* ranging from 0.91 to 2.90) • BRIC- significant improvement in all 13 behavior areas (*t* ranging from .11 to .55) • TRF- significant improvement in 10 of the 14 areas (*t* ranging from .10 to .42)
Koffman et al., 2009	387 middle and high school	1-year program at various grades. Participants receive tutoring, individualized counseling and tracking of attendance and behavior in school, leadership training to become peer leaders, tutoring. Includes parenting classes.	None explicitly stated	• Pretest-posttest • Beck Depression Inventory (BDI) • Behavioral- discipline referrals, suspension rates • Academic- test scores	• BDI scores improved (number of students who fit into the normal range increased from 35% to 66% • Behavioral- only gave school rates, not participant rates • Test scores improved in English (56%) and math (58%)
Lever et al., 2004	270 high school (9th	5-year program that begins the summer before 9th grade and ending	None explicitly stated	• Quasi-experimental • Dropout rate	• Lower dropout rates (6.28% compared to 10.98%)

	grade) in 6 schools	the year after graduation from high school. During school, students attend smaller classes, receive case management, earn incentives for positive achievement, and participate in cultural enrichment, character development, and career preparation activities. School-based mental health services are also available.		• Employment and post-secondary education enrollment • Social, emotional, and behavioral concerns- the Youth Self-Report (YSR)	• 85.2% of participants were in college, vocational school, or employed following graduation, but did not give comparison statistic • Did not show any improvement on the YSR over time
Mac Iver, 2011	225 high school students (9^{th} grade) in 2 schools	4-year program that begins in the 9^{th} grade. An adult advocate is assigned students to encourage attendance and school work, and discuss personal issues. They also discuss progress reports individually with their students, help them set academic goals, and intervene to deal with academic and behavioral issues.	Theory of Action- adult advocate will personalize school leading to increased student engagement and attachment to school and result in reduced dropout rates	• 5-year longitudinal randomized study • Outcomes- attendance, on-time promotion in grade, and high school completion	• Participants had significantly higher attendance in year 1 (80% vs. 74%) • Attendance rates were not significantly different in years 2-5 • Participants had higher promotion rates 10^{th} (57% vs. 53.3%), 11^{th} (40% vs. 34.8%), 12^{th} (45% vs. 33.7%) but none were significant • Participants had higher graduation rates (29.9% vs. 23.1%) but was not significant • Participants had lower dropout rates (41% vs. 53.8%) but was not significant
Scheel, Madabhushi, & Backhaus, 2009	20 high school students (9^{th} grade)	Each student is assigned a counselor (graduate student in counseling psychology) and attends weekly meetings where they identify strengths and form goals and actions plans related to future aspirations. There are also small-group sessions, teacher-counselor monitoring of academic progress, and family check-ins with guardians.	• Humanistic • Solution-focused • Strengths perspective	• Phenomenological study (meaning of academic motivation) • Examined the meanings that students construct about academic motivation while participating in the program	• Six themes emerged: self-efficacy, purpose of school, family influences, relationships at school, counselor influence, and school structures and activities • Positive relationships in school are crucial to academic motivation • When a student feels isolated and lacks secure attachments with school, she or he heads toward the exit
Schirm, & Rodriguez-Planas, 2004	579 high school students (9^{th} grade)	4-year program that begins in the 9^{th} grade. Students are assigned a case manager who meets with the students during the school day,	None explicitly stated	• Experimental design with random assignment in 7 sites over 5 years	• Did not increase the graduation rate, grades or test scores. Also did not reduce engaging in risky behaviors such as teen parenting,

		although the majority of the activities take place after school. After school program includes supplemental education, developmental activities, and community service activities.		• Graduation rate • Post-secondary education, training, or armed forces enlistment • Academic- grades, test scores • Engage in risky behaviors	binge drinking, committing a crime, or being arrested. • The likelihood of engaging in postsecondary education or training increased (53% vs. 62%) but was not significant
Sinclair, Christenson, & Thurlow, 2005	144 high school students (9th grade) who receive special education services for an emotional or behavioral disability	Students are assigned a "monitor" (counselor or social worker) who continuously assesses the student's levels of engagement with school (e.g., attendance, suspensions, grades, credits). The program has 7 core intervention elements- relationship building, persistent plus, routine monitoring of alterable indicators, individualized and timely intervention, following students and families (for highly mobile students), problem-solving, and affiliation with school.	• Participation-Identification model • Resiliency theory • Ecological approach • Cognitive-behavioral theory	• Experimental with random assignment over 4 years • Engagement- teacher completion of Social Skills Rating System (SSRS) • Dropout rates, persistence in attendance (any period of dropout), school mobility, school completion rates, and special education transition program services	• Significantly lower dropout rates (39% vs. 58%) • Significantly increased attendance and more likely to demonstrate persistent attendance (no periods of dropout) during 3rd, 4th, and 5th years (Year 3 $X^2(3) = 8.47$;Year 4 $X^2(3) = 15.64$; Year 3 $X^2(2) = 6.96$) • At the end of 4 years, participants were significantly more likely to be enrolled in an educational program or to have completed high school (61% vs. 43%)
Somers, Owens, & Piliawsky, 2009	140 high school students (9th grade)	1-year program that occurs in the 9th grade. Students were paired with paid tutors who were college students for 2-hour tutoring session 4 times a week. Students also attended monthly enrichment programs that were designed to enhance self-efficacy, self-esteem, knowledge of career options and motivation. They also received information from professional consultants on how to best prepare themselves for college.	None explicitly stated	• Quasi-experimental • Academic- GPA • Educational attitudes and behaviors- 4 subscales: educational intentions, educational commitment behavior, identification of the financial value of education, and identification of the personal value of education • Career goals and role models- answered open-ended narrative questions	• Did not find improvement in attitudes toward staying in school, or in GPA • Career goals- careers that typically involve a four-year college degree were rarely mentioned. A large number of students identified careers in entertainment and media.

The majority of the studies were conducted with high school age students. Two of the studies were conducted with elementary school age children and one with middle and high school. The focus of interventions on high school is contradictory to evidence that suggests the process of dropping out of school is a long-term and may even start before a child enters school (Alexander et al., 2001). Only six of the ten studies explicitly stated a theoretical framework for their intervention. Youth development was mentioned by two of the studies, and behavioral theories were also mentioned in two of the studies. The other theories were used to inform the "adult advocate" role (e.g. task-centered, solution-focused, humanistic) as well as the emphasis on increasing student engagement (e.g. participation-identification, resiliency).

There is a growing need to identify effective methods of intervention for youth at risk for dropping out of school. In addition, in the context of students' diverse circumstances and situations, it is unlikely that one size will fit all. Much of the existing research focuses on high school students; there is a paucity of longitudinal dropout prevention programs that begin in middle and elementary school. Based upon the following table of interventions, school-based, longitudinal interventions that focus on assigning a supportive adult to work individually with a student demonstrates promise towards addressing the issue of school dropout.

Service Delivery

Communities In Schools is unlike many other school dropout prevention programs in that it tailors the services and interventions provided based upon the needs of the school (Level One services) and the needs of the individual child and his or her family (Level Two services). This individualization is built into the model and has become one of the hallmarks of CIS, resulting in the applicability of the model with diverse ethnic and racial populations, rural versus urban, and even across the diverse states of our country. Although a strength, it also poses a dilemma when

attempting to examine the services that are delivered because they are not packaged as a manualized intervention.

CIS' model of service delivery is similar to that of the "systems of care" model and the wraparound approach. The wraparound approach emerged in the 1980s as an alternative to institutionalization for children and adolescents with serious emotional and behavioral disorders and their families. Following a class action lawsuit levied against the state of North Carolina, the state began to implement an array of flexible, comprehensive, community-based services that were coined "wraparound" (Walker & Matarese, 2011). During the next 25 years as additional states began implementing their own wraparound approach, the model was further defined and the wraparound process was explicated. Wraparound has evolved from a commitment to ''do whatever it takes'' to a defined set of activities that are necessary elements of a wraparound process.

Wraparound is not a single service, but instead a process through which specific school and/or community based interventions can be designed, implemented, and coordinated. The logic is that by bringing together a team made up of family members, natural supports (e.g., extended family, friends, mentors), and school and community professionals, the wraparound process will produce a plan that addresses the family's priorities and is accepted by the family, and eventually leads to realistic and practical strategies to support the student in his or her home, school, and community (Walker & Matarese, 2011). The wraparound process includes activities that occur in four distinct phases that is guided by a trained facilitator: engagement and team development, initial plan development, plan implementation, and plan completion and transition (Eber, Hyde, & Suter, 2011). The trained facilitator works with the student and family to identify the other members of the wraparound team (engagement and team development) and help them come to a

consensus regarding the goals and strategies that will be employed (initial plan development). Once the plan is developed, the facilitator works with other team members to implement various activities and interventions to meet the agreed upon goals (plan implementation). For instance, the student may receive mentoring from one of the natural supports, specialized reading instruction from a tutoring program available at the school, and cognitive-behavioral therapy from the mental health clinic. In the last phase of the process, plan completion and transition, the facilitator transitions the student and family from the ongoing wraparound team to progress monitoring through less intensive structures, such as parent teacher conference or community agency contacts (Eber et al., 2011).

The "systems of care" model was also developed in the mid-1980s to address the needs of children with serious emotional disturbances. Although the federal government has recognized the unmet needs of children and adolescents with mental health issues since the late 1960s, it was not until the release of Jane Knitzer's book, *Unclaimed Children*, in 1982 that a more substantial response from the federal government was initiated (Kutash, Greenbaum, Wang, Boothroyd, & Friedman, 2011). Knitzer asserted that the needs of severely emotionally disturbed children had remained largely unaddressed. Many of the children were not getting the services they need, and others received either inappropriate or excessively restrictive care (Stroul & Friedman, 1986). The federal government initiated the Child and Adolescent Services System Program (CASSP) in 1984 to provide funds for states to develop comprehensive, coordinated, community-based systems of care for severely emotionally disturbed children and youth (Kutash et al., 2011).

Similar to the wraparound approach, the actual components of the systems of care may differ from state to state and community to community, but the guiding principles remain the same. Stroul and Friedman (1986) assert two core values that are central to the system of care:

the system of care must be child-centered and community-based. A child-centered model entails the needs of the child and family dictating the types and mix of services that will be provided. This requires the services to be adapted to the child and family, rather than expecting the child and family to conform to pre-existing service configurations. The value of community-based is a commitment to providing services in the least restrictive setting possible. Stroul and Friedman (1986) also outline ten guiding principles for the systems of care approach. These include items such as early identification and intervention, insuring a wide array of services that address the child's physical, emotional, social and educational needs, individualized services in accordance with the unique needs and potentials of each child, and the use of case management to ensure that multiple services are delivered in a coordinated manner, to name a few.

Stroul and Friedman (1986) further delineate the model by using a framework consisting of seven dimensions of service: mental health, social, educational, health, vocational, recreational, and operational services. They assert that each of these dimensions is a necessary area of need for children and their families and they all should be provided equally. It is important to note that "all of the components are interdependent—not only the components within a service dimension such as mental health, but all of the seven service dimensions that comprise the model" (Stroul & Friedman, 1986, p. 28).

Taken together, these two models share several similar characteristics of the CIS model for Level Two services. Level Two services also involve a process to identify the needs of students and their families, and the site coordinator then identifies resources and available supports from a variety of sources to deliver the services and activities. The site coordinator serves in a case management role to manage and coordinate the delivery of services as well as provide services such as individual or group counseling. Most important, the services,

interventions, and strategies used are individualized and tailored to meet the unique needs of each child. This is consistent with the aforementioned research which suggests dropout prevention efforts should provide individualized services in order to address the constellation of factors across multiple domains that may be impeding a child's success in school.

This focus on individualized services raises an important question: how can one investigate the effectiveness of a model when each participant is receiving different services? Farmer (2000) notes a similar predicament when attempting to evaluate the effectiveness of the interventions of systems of care. She posits the evaluating interventions provided within the systems of care model tend to be complex for two main reasons: the interventions are expected to be individualized, and they may be provided by multiple providers both at a point in time and across time. This produces a conundrum when attempting to conduct effectiveness research. Farmer (2000) states that "effectiveness research is possible when the intervention can be clearly specified, and its effects can be contrasted with another intervention (or lack of the targeted intervention) in a rigorous design" (p. 637). Given the parameters of this study, it is not plausible to view it as effectiveness research. However, it is plausible to investigate the patterns of services that are delivered in order to understand how the model is working and under what circumstances. Therefore, this study recognizes the tenuous relationship between examining commonality among services and outcomes and the need to respect the heterogeneity of the population and their needs.

Case Management

Social work has a rich history of using case management dating back to the late 19th century in the Charity Organization Societies. Social workers began providing services directly in the schools in 1905, and by the 1920s "casework" was the preferred vehicle for working with

children in the schools (Massat, Constable, McDonald, & Flynn, 2009). Despite this history, there is little analytical material on the implementation of case management (Kennedy & Kennedy, 2010). Confounding this issue further is the elusive definition of case management as well as a uniform conceptual and operational framework of a comprehensive case management model (Rapp & Wintersteen, 1989). Callahan (1989) likens case management to a Rorschach test, stating "each professional tends to understand case management based on his or her own setting and experience" (p. 183). A review of the literature finds several unifying components of case management including: assessment, advocacy, development of a service/case plan, implementation of the service/case plan (includes brokering services and mentoring), evaluation and tracking (Engelke, Guttu, & Warren, 2009; Engelke, Guttu, Warren, & Swanson, 2008; Kingsley, 1989; Lever et al., 2004; Stowitscheck & Smith, 1990; Zoffness, Garland, Brookman-Frazee, & Roesch, 2009). In addition, case management should be tailored to the unique circumstances of the community and population that are served (Callahan, 1989; Kennedy & Kennedy, 2010; Stowitscheck & Smith, 1990).

Several case management models have been developed to address school failure and school dropout. An example is the task-centered case management model developed for the Partners in Prevention program. This model combines the highly structured and prescriptive guidelines of the task-centered model with the conceptual framework of case management in order to address the complex academic and nonacademic factors associated with school failure (Colvin, Lee, Magnano, & Smith, 2008). One of the important components of the task-centered case management model is the student's identification of the goals, thus giving the child autonomy and facilitating resilience. Unfortunately, the program is only used in elementary school and therefore does not provide support to the student through middle and high school.

The interprofessional case management model, developed by the University of Washington's Center for the Study and Teaching of At-Risk Students, involves "…partnerships between schools, community-based agencies that serve families and children residing in the schools' attendance areas, and universities responsible for preparation of school and community-based professionals" (Smith & Stowitschek, 1998, p. 62). The model is intended to be school-based and focuses on three structural components: the case manager; the interprofessional case management team, which includes the case manager, social worker, and a health service professional; and the community service network which includes a range of local service providers who agree to provide specific services deemed necessary for the students and their families. The structural components are interlinked with seven interrelated functions that mirror the 6-step paradigm for case management outlined by Ballew and Mink (1986) whereby "…case managers engage clients, assess needs, plan services, access resources, coordinate services, and disengage clients" (Smith & Stowitschek, 1998, p. 62).

Although the above mentioned models have demonstrated success, they also demonstrate the scantiness of theoretically driven models. One clearly defined and theoretically driven model, strengths-based case management (SBCM), was originally developed for adults suffering with severe and persistent mental illness (Rapp, 1992). SBCM is grounded in strengths theory and is based on six principles: (a) the focus is on individual strengths rather than pathology; (b) the community is viewed as an oasis of resources; (c) interventions are based on client self-determination; (d) the case manager–client relationship is primary and essential; (e) aggressive outreach is the preferred mode of intervention; and (f) people can learn, grow, and change (Arnold, Walsh, Oldham, & Rapp, 2007; Rapp, 1992). Another key component of the model is four fundamental concepts which stress the relationship between the case manager and the client,

strengths assessment, setting realistic and manageable goals, and advocacy in resource acquisition (Rapp & Wintersteen, 1989). SBCM has been used in a limited number of studies involving at-risk youth, including HIV prevention among homeless youth (Arnold & Rotheram-Borus, 2009), children with serious emotional and behavioral problems (Zoffness et al., 2009), runaway youths (Arnold at al., 2007), and delinquency prevention for adjudicated and non-adjudicated youth (Kurtz & Linnemann, 2006). The Advancing Young Adult Learning (AYAL) project, a training program for teachers, staff, and administrators who work with 16-24 year olds in GED and adult literacy programs, added SBCM to address the real life barriers that affected the students' success in a traditional school setting (Boulden, 2008).

SBCM is an ideal model to implement for the prevention of school dropout. While Communities In Schools does not explicitly state that it implements a model of SBCM, the principles and method of SBCM most accurately reflects CIS Level Two services. In particular, SBCM prescribes an "outreach mode with in-vivo service delivery" (Rapp, 1998, p. 369) which readily fits with CIS' model to bring community resources into the school context. The day-to-day contact between a case manager/site coordinator and a student in school enhances engagement and provides more opportunities to locate and use individual strengths. Rather than solely serving as brokers to access care, SBCM is dominated by direct service provision to the client by the case manager creating a strong positive, caring relationship with the student. The case manager can use this relationship as a source of strength and motivation and empower the student to make positive life changes by assessing their strengths, identifying goals, and helping them learn to mobilize and use community resources. SBCM typically accesses informal resources as opposed to an emphasis on formal services (Arnold & Rotheram-Borus, 2009) which enables the student access to these resources following discharge or graduation. In

addition, SBCM addresses the individual factors as well as the family and community factors that may inhibit a student's success.

Theoretical Framework

This dissertation was informed by two theories: positive youth development from the fields of psychology and developmental science, and resiliency theory, from the social sciences. Together, these two theories provide a more complete framework for understanding the conceptualization behind the proposed dissertation. Positive youth development and resilience theory provide guidance for understanding the various services that are provided as well as the overall goals of Level Two services. Resilience theory also provides guidance on understanding the variance and trajectory of the student outcomes.

Resilience Theory

Resilience refers to a dynamic process encompassing positive adaptation within the context of significant adversity. It is widely understood that two critical conditions must be met: exposure to significant threat or severe adversity, and the achievement of positive adaptation despite major assaults on the developmental process (Luthar, Cicchetti, & Becker, 2000). In her groundbreaking study in Kauai, Emmy Werner's investigation into children's vulnerability following exposure to various risk factors took an unexpected turn to examine the roots of resiliency in those children who successfully coped with such risk factors (Werner, 1993). Research on resilience has expanded to include a variety of adverse conditions such as poverty (Garmezy, 1991; Rutter, 1979), parental mental illness (Masten & Coatsworth, 1998), and child abuse (Cicchetti, Rogosch, Lynch, & Holt, 1993) to name a few**.** These studies have overturned many deficit-focused models about the development of children when faced with various disadvantages and adversities. During early waves of resilience research, researchers tended to

regard and label individuals who transcended their adverse circumstances as "invulnerable," or "invincible" (Masten, 2001). Such labels implied that these individuals were in possession of a rare and remarkable set of qualities that enabled them to rebound from whatever adversity came their way. Increasingly, researchers have arrived at the consensus that resilience is not some remarkable, innate trait but rather a developmental process that incorporates protective factors that are able to alter negative life events (Bernard, 1991). Ann Masten (2001) refers to the resilience process as "ordinary magic." As she explains, "Resilience does not come from rare and special qualities, but from the everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities" (Masten, 2001, p. 235).

Scholars often refer to resilience in one of three capacities: "overcoming the odds—being successful despite exposure to high risk; sustaining competence under pressure—adapting successfully to high risk; or, recovering from trauma—adjusting successfully to negative life events" (Fraser, Galinsky, & Richman, 1999, p. 136). In all three, resilience is characterized by successful adaptation in the context of high risk. However, considerable confusion arises when the outcome of adaptation and the process of adaptation are used interchangeably to describe resilience. Resilience can be defined as an outcome characterized by particular patterns of functional behavior despite risk. Alternatively, resilience can be defined as a dynamic process of adaptation to a risk setting that involves interaction between a range of risk and protective factors (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). By conceptualizing resilience as a process, it implies that resilience can grow or decline over time depending on the interactions taking place between an individual and their environment and between risk and protective factors in an individual's life (Borman & Rachuba, 2001). Therefore, an individual may be resilient at

certain times and not at others depending upon the circumstances and relative strength of protective factors compared to risk factors at the given moment.

The conceptualization of resilience as an outcome poses a number of issues related to measurement. There is inherently considerable judgment imposed by the researcher to define the criteria by which the quality of adaption is assessed or evaluated (Masten, 2001). For example, some studies have utilized the term "salient developmental tasks" as the desired outcome (Masten, 2001; Olsson et al., 2003). Yet, this term requires an agreed upon norm which is heavily influenced by societal, cultural, and historical contexts. Olsson et al. (2003) note that some researchers have defined resilience in terms of good mental health, functional capacity, and social competence. However, this has resulted in having as many definitions of resilience as there are studies.

Thinking of resilience as a process compels a broader consideration of the interaction between and among a range of risk and protective processes of varying degrees of impact, and a risk situation at varying points in a child's development. Olsson et al. (2003) illuminates this point with the following example:

> It is simplistic to believe that a clear single factor, such as parental divorce, is the causal element in a negative chain of events leading to compromised social or academic or relational competence. The risk process associated with parental divorce encompasses more than the act of physical separation. Patterns of family interaction that precede, concur and follow the physical separation of the parents are thought of as the extended process by which young people are placed at risk of poor outcomes. While the adverse life circumstance may be described as the event of divorce, multiple risk factors acting in synergy may far exceed the effect of one significant life event (p. 4).

Thus, the effect of multiple risk factors can be exponential. However, protective factors, too, can have a cumulative effect (Kirby & Fraser, 1997). Protective factors have been defined as both the absence of risk and as a separate construct that modifies risk (Jenson & Fraser, 2006). Similar to risk factors, protective factors can be classified in multiple domains including individual, family, school, and community. Jenson and Fraser (2006) posit that protective factors can serve as a buffer by reducing the impact of a risk in a child's life or even by preventing the onset of a risk factor. Resilience theory is grounded in the belief that all humans have the capacity for resilience, and with the right combination of protective factors over time, each person can have a fulfilling life despite adversity (Bernard, 1991).

Resilience theory provides a way to understand the complex interplay of risk factors within the developmental context. Resilience theory is also reflected in CIS' approach to Level Two services; students must exhibit risk factors for school dropout in order to be referred to the program, however, the risk factors are not ranked according to a subjective scale of severity or some other means. It is the sheer number of risk factors that denotes level of risk and an understanding of how the specific risk factors may be impacting a student's success that drives the planning process and subsequent delivery of services. Some of the Level Two services may not appear to be directly related to school dropout prevention, yet the underlying philosophy is to remove any barriers (risk factors) and provide protective factors to the student. Resilience theory may also help explain a student's performance in the ABCs of the early warning indicators. Resilience theory suggests, in the context of Level Two services, that a student may begin improving in the area of discipline referrals but does not show any improvement in grades. Therefore, each of the EWI outcomes will be examined individually rather than creating a composite of academic success.

Positive Youth Development

Several conceptual models have been developed to address youth problems and enhance youth development such as youth promotion (Cheon, 2008), core competency framework (Bradshaw, O'Brennan, & McNeely, 2008), and positive youth development. Positive Youth Development (PYD) has increasingly gained attention because of its application in a variety of settings such as schools (Eichas et al., 2010), communities (Zimmerman, Stewart, Morrel-Samuels, Franzen, & Reischl, 2011) and even wilderness interventions (Sklar, Anderson, & Autry, 2007) as well as its perspective from correcting deficits towards enhancing the potential of youth. PYD understands that "problem-free" does not equate to preparation for the future.

The professional discourse on adolescent development has ranged from that of "storm and stress" to one of opportunity and optimism. Prior to the 1990s, positive development was regarded as the absence of negative or undesirable behaviors (Lerner, Brentano, Dowling, & Anderson, 2002). Accordingly, a youth manifesting positive developmental behaviors was one who was *not* taking drugs, *not* engaging in unprotected sex, or *not* participating in crime. Furthermore, not unlike early dropout prevention research, theories that were based on this deficit model typically endorsed a view that the pathology of youth was the result of "bad genes, insensitive parenting, socialization failure, or other 'single' causes" (Lerner et al., 2002, p. 13).

The 1990s gave way to a shift in thinking that was more holistic and encompassed multiple ecological factors across the entire span of human life. PYD is conceptualized from a developmental framework, which recognizes that human development encompasses the influential relations between the individual and context. Human development is shaped and molded by biological, psychological, ecological, and historical influences (Lerner, 2005; Lerner et al., 2002). Based upon the differences in the timing of connections among these contexts,

individuals may experience varying developmental trajectories. One important component of this broader view is that no particular relationship or environmental context is all-important, nor do they occur in isolation (Lerner, 2005). Rather, what is important is the configuration of these various sources of influence over time and developmental stage. The main consequence of this perspective is that efforts to support youth development are now focused on strengthening the linkages between individuals, their family, and environmental supports. A reciprocal relationship is thought to exist between an individual and their family, community, and other social contexts that foster positive health and development (Lerner et al., 2002).

There are several definitions of PYD, although one succinct definition states that "PYD is a process which prepares young people to meet the challenges of adolescence and adulthood through a coordinated, progressive series of activities and experiences which help them to become socially, morally, emotionally, physically, and cognitively competent" (National Collaboration for Youth Members as cited by Amodeo & Collins, 2007, p.75). There are several PYD frameworks that have emerged over the years, but despite their differences, they all share the following assumptions:

> Helping youth achieve their full potential is the best way to prevent them from experiencing problems; youth need to experience a set of supports and opportunities to succeed; communities need to mobilize and build capacity to support the positive development of youth; and youth should not be viewed as problems to be fixed, but as partners to be cultivated and developed. (Small & Memmo, 2004, p.7)

The 5 Cs. Lerner et al. (2005) formulated and validated one of the most widely used frameworks of PYD, the ''Five Cs''—competence, confidence, connection, character, and caring and compassion, and the development of these Cs is linked to youth community contributions

(the "sixth C" of PYD). Building upon the work of Rick Little, Lerner (2004) defines competence as a positive view of one's actions in different domains such as social, academic, cognitive, and vocational. An individual with high social competence may excel at interpersonal skills, whereas an individual with high cognitive competence would exhibit the ability to solve problems and make decisions. Academic grades, attendance, and test scores are part of academic competence, whereas vocational competence involves work habits and career choice explorations. Confidence refers to the individual's overall sense of positive self-worth and self-efficacy (Lerner, 2004). A child with high levels of confidence would display high self-esteem and positive self-efficacy in different areas. Connection is reflected in the creation of positive bonds with people and institutions through bidirectional exchanges with peers, family, school, or communities. Lerner (2004) notes that it is important that both parties, the child and the people or institutions, are contributing to the relationship. The fourth C, character, encompasses the respect of societal and cultural rules, having a sense of right and wrong (morality), and integrity. Finally, caring and compassion refers to a sense of sympathy and empathy for others (Lerner, 2004). Youth who have developed these "Five Cs" are considered to be on the developmental path to the "Sixth C", contribution to self, family, community, and the institutions of society (Lerner et al., 2005).

There are two main program approaches that are often identified in youth programs: "prevention" programs and "positive youth development" programs. Prevention programs generally focus on a specific "problem" area that they seek to prevent or reduce the incidence of, such as school dropout, teen drug use, or unplanned pregnancy. These programs have received criticism from the PYD camp for identifying youth based upon a problem that is in place or about to happen (Eccles & Gootman, 2002). In contrast, positive youth development programs

are not designed to address specific problems but rather define themselves as being interested in youth as a collection of assets and opportunities (Roth & Brooks-Gunn, 2000). Eccles and Gootman (2002) suggest that both prevention and promotion approaches are needed and have value. While youth need multiple opportunities to grow in positive, healthy ways, they also sometimes need specific, focused help to steer clear of specific obstacles. They further note that the distinction between the two approaches often becomes blurred when one examines the content and nature of the programs. Regardless of the initial approach, the key point is that positive youth development programs "promote youth contribution by assuring that the young person has a sustained relationship with at least one committed adult, who provides skill-building opportunities to the youth and acts to enhance the young person's healthy and active engagement with the community" (Lerner et al., 2005, p. 24). The result from participating in these programs is the attainment of the Six Cs.

Promotive factors. As previously discussed, scholars in the field of resilience research contend that protective factors can serve to buffer the impact of risk in a child's life or even prevent the onset of risk (Jenson & Frasier, 2006). The provision of protective factors, such as the Five Cs, can build resiliency in a student. However, it has been argued that protective factors are only meaningful in the context of risk (Rutter, 1987). In other words, protective factors can only have their intended affect if a student presents with a risk factor. The term *promotive factor* has been used to refer to conditions or attributes that have positive effects on people's lives, irrespective of the number of risk factors (Sameroff, 1999). They have been explained as the "positive pole of risk factors" (Sameroff & Fiese, 2000, p. 140). Sameroff and Fiese (2000) provide the example that a negative family climate is a risk factor, whereas a positive family climate is a promotive factor. It the context of PYD, the delineation of protective versus

promotive factor is akin to the prevention versus promotion program approach. The provision of services aimed at developing the Five Cs will take on the role of protective factor or promotive factor depending on the risk factors present in a student's life. In either approach, the overall goal remains the attainment of the Six Cs.

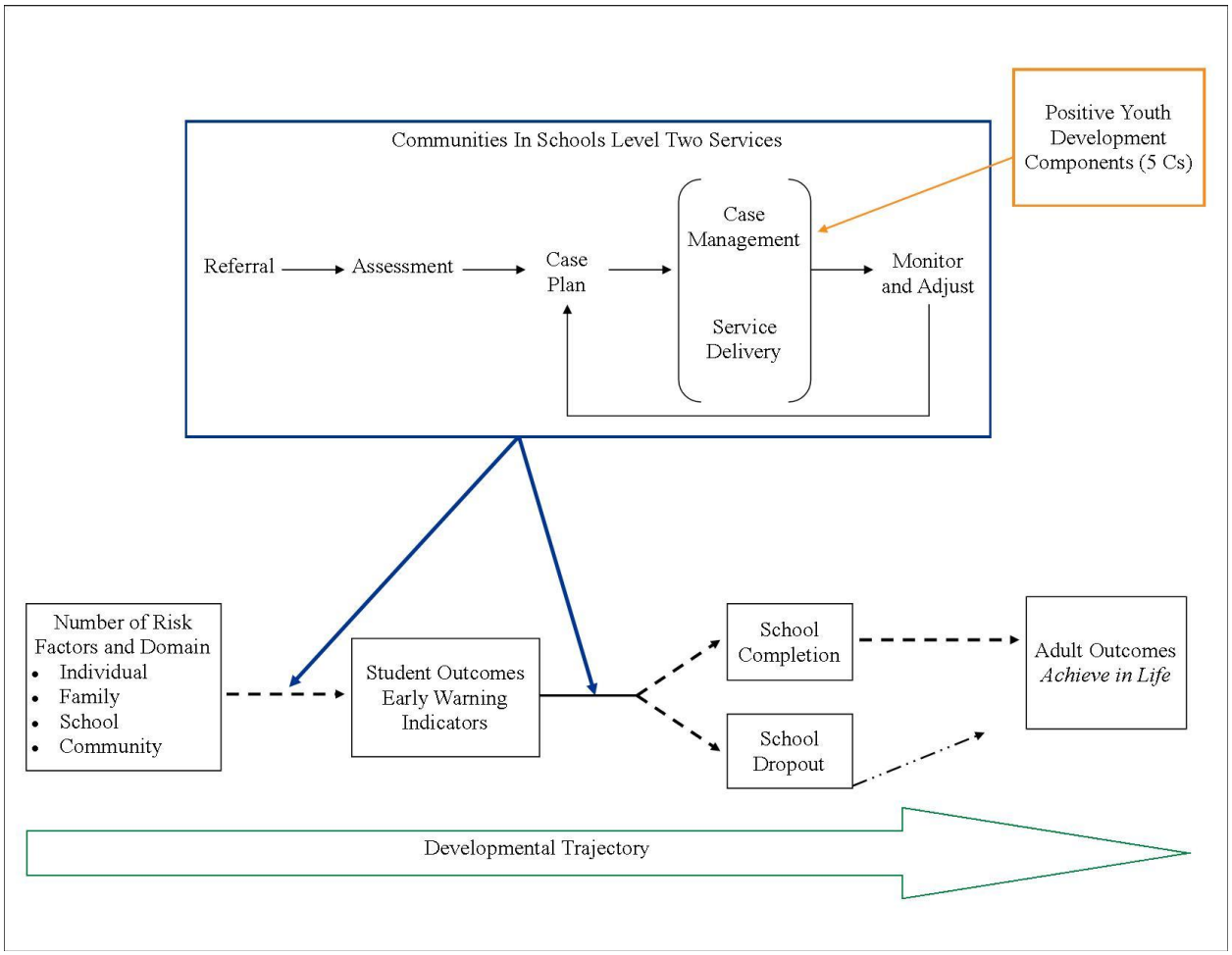
PYD and CIS. Although CIS defines itself as a dropout prevention program, it is also equally concerned that children graduate from high school to become healthy and productive members of society. The mission statement of CIS is to "surround students with a community of support, empowering students to stay in school and *achieve in life.*" The services provided are there to not only remove any barriers that are impeding a student's success in school, but also considering what other skills and resources the student may need in order to achieve in life. The use of Lerner's "Five Cs" provides a framework, similar to the service domains outlined in Stroul and Friedman's (1986) systems of care model, to understand how services are conceptualized and what they are ultimately trying to achieve. The immediate result is improvement in one or more EWIs (i.e. grades, attendance, and behavior), but there may be services that do not seem to relate to academic achievement on the surface. However, when one considers the Six Cs, it becomes evident that these services are necessary in order to promote positive youth development among the students.

Conclusion

During the last forty years, researchers have made substantial progress in understanding the complexity of school dropout. We now understand there are numerous possible risk factors for school dropout and they reside in multiple domains in a child's life. These risk factors do not have a similar impact on students throughout their lives; early risk factors and events interact with later events and can change the academic trajectory for a student. Furthermore, we

understand that dropping out of school is not an event, but rather the end result of a long-term process that begins even before a child entered school. In order to address this complex and dynamic issue, prevention intervention efforts must attend to the constellation of factors that may impede a child's success in school. The conceptual model presented in Figure 2 provides a framework for understanding the relationship between risk factors and school dropout and CIS Level Two services in promoting school completion and positive outcomes in life.

Figure 2. Conceptual Model



The conceptual model is informed by the empirical research on school dropout and dropout prevention, resilience theory and positive youth development, and the literature on service delivery and case management. The number of risk factors within various domains of a

child's life, over time, can manifest as poor academic achievement and set a student on a trajectory towards school dropout. Level Two services can help to promote positive student outcomes by responding to the unique needs—the academic and non-academic factors—and providing services to buffer the risks, effect the level of risk, and support the overall development of each student. The following chapter will outline the methodology used to further examine this relationship.

CHAPTER 3

Methodology

The primary aim of this secondary analysis is to develop an increased understanding of Level Two services, to explore whether service provision varies systematically in relation to student outcomes and student characteristics, and to gain initial understandings of whether service provision is related to end-of-year outcomes. The research questions for this study are:

1. What Level Two services are provided to students by Communities In Schools?
2. Do CIS Level Two services vary by student characteristics and prior year outcomes? If so, which student characteristics and prior year outcomes are related to provided services?
3. To what extent do CIS Level Two services relate to student outcomes by the end of the school year?

Dataset Description

The data for this study contain the 2010-2011 end-of-year school outcomes, the 2011-2012 end-of-year school outcomes, and service notes for 487 students receiving Level Two services by the CIS of Central Texas, Inc. affiliate. Data for this study include students who were in the 6^{th}-8^{th} grade during the 2011-2012 school year and who have school outcomes for the previous school year (2010-2011). Data on services received are available for the 2011-2012 school year. Therefore, analyzed data will include end-of-year indicators for 2010-2011, services received during the 2011-2012 school year, and outcomes for the 2011-2012 school year. The

dataset includes students from 16 middle schools representing three independent school districts in the Austin, Texas area.

Data Collection Procedures

Once a student is referred for CIS services and the site coordinator begins delivering and coordinating services (following the signed permission form, conducting a needs assessment with the parent/guardian, and creating a case plan), the site coordinator enters the services each Level Two student receives daily into the web-based data management system. The system is organized such that the site coordinator can pick from a wide range of services (see Appendix B) that best fits, in the site coordinator's opinion, what service the student received. The site coordinator also selects a sub-category based upon how the service was delivered and by whom (Table 2) and types a description of what occurred. At the end of the school year, the site coordinator receives the end of year outcomes from the school and enters them into the system. This dataset represents all of the services that were delivered, either through direct service or brokered for the 2011-2012 school year.

Table 2. Sub-category Description for Level Two Services

Sub-category	Description
Group - Direct	Small or large group activities with other CIS participants, led by CIS staff. (Example: Lunch Bunch, Diversity Group, Enrichment or Psycho-Educational Groups)
Group - Indirect	Monitoring of grades and attendance, small or large group activities with other CIS participants, not led by CIS staff. (Example: Boys and Girls Club)
Individual - Direct	One-on-one meetings with student. These meetings can be formal or informal (e.g., case management; student stops by to talk about a teacher issue).
Individual - Indirect	CIS staff members check up on student, by speaking to school staff, parents, etc. about student's progress

Agency Context

CIS of Central Texas, Inc. was founded in 1985 and currently provides services to 56 schools across five Independent School Districts within and surrounding the Austin Metro Area. During the 2011-2012 school year, CIS of Central Texas provided 6,669 students with Level Two services and provided an additional 49,000 students with Level One services. The Level Two students ranged from kindergarten to the 12th grade. The racial/ethnic composition of the Level Two students was: 68.2% Hispanic; 20.9% African American; 9.4% white; and 1.5% other. In addition, 28.3% were English language learners and 94.1% received free/reduced lunch. All of the site coordinators in this affiliate are social workers (Communities In Schools of Central Texas, 2012).

Measures

Student Outcomes

This study used academic outcome variables consistent with the early warning indicators (EWIs) literature. Therefore, the student outcome variables associated with this study are: attendance, discipline referrals, grades (math, English/language arts, science, and social studies), and promotion/retention. The student outcome variables for the prior academic year (SY2010-2011) and the end of the service year (SY2011-2012) were included.

Attendance, a continuous variable, was measured as a student's total number of absences, with the exception of "medically excused" absences, over the course of the school year. As discussed in Chapter Two, the early warning literature suggests that the risk of dropping out of school is associated with not only the number of EWIs, but also the specific EWIs that are present. Hence, SY2010-2011 attendance was also measured as a dichotomous variable to measure the presence or absence of an EWI in attendance. Balfanz (2009) suggests that a student

missing 20% or more of school is critical. Therefore, SY2010-2011 attendance was collapsed into two categories: EWI (36 absences or above) and No EWI (35 or below).

Discipline referrals, a continuous variable, was measured as a student's total number of referrals over the course of the school year. Liljengren (2014) suggests that a red flag is the receipt of six or more referrals in a school year. The EWI in SY2010-2011 discipline referrals, a dichotomous variable, was measured as EWI (6 or more discipline referrals) and No EWI (5 or less discipline referrals).

Final grades in the core subjects were measured as the student's final numeric grades in math, English/language arts, social studies, and science at the end of a school year. These were all used as continuous variable. Each SY2010-2011 final grade was also collapsed into two categories to represent the specific EWI: EWI (69 or below) and No EWI (70 and above). The literature on Early Warning Indicators suggests that in middle school, students typically have only one indicator: failing a single subject, not attending school regularly, or misbehaving (Balfanz, 2009). Accordingly, each subject area was analyzed separately rather than creating a composite score such as GPA (grade point average).

Promotion/retention for SY2010-2011 was determined by examining the grade level of SY2010-2011 and SY2011-2012; if the grade level was the same for both years the case was classified as "retained," whereas if the grade level increased the case was classified as "promoted". The initial dataset had three categories for promotion/retention for SY2011-2012: "promoted to the next grade," "student retained," and "enrolled in school within Texas." For the purposes of this study, the categories for those students "promoted to the next grade" and "student retained" were maintained and those with the code "enrolled in school within Texas"

(n=15) were recoded as missing. Table 3 provides a summary of the student outcome variables that were used in this study.

Table 3. Summary of Student Outcome Variables

Variable	Description	Level of Measurement
SY2010-2011 Attendance	Total number of absences, excluding those considered as "medical excuse" for the 2010-2011 school year	Continuous
	EWI (36 absences or above), No EWI (35 absences or below)	Dichotomous
SY2011-2012 Attendance	Total number of absences, excluding those considered as "medical excuse" for the 2011-2012 school year	Continuous
SY2010-2011 Discipline referrals	Total number of discipline referrals as captured by the school for the 2010-2011 school year	Continuous
	EWI (6 referrals or above), No EWI (5 referrals or below)	Dichotomous
SY2011-2012 Discipline referrals	Total number of discipline referrals as captured by the school for the 2011-2012 school year	Continuous
SY2010-2011 English/Language Arts	Final grade recorded by the school for English/Language Arts for the 2010-2011 school year	Continuous
	EWI (69 or below), No EWI (70 or above)	Dichotomous
SY2011-2012 English/Language Arts	Final grade recorded by the school for English/Language Arts for the 2011-2012 school year	Continuous
SY2010-2011 Math	Final grade recorded by the school for Math for the 2010-2011 school year	Continuous
	EWI (69 or below), No EWI (70 or above)	Dichotomous
SY2011-2012 Math	Final grade recorded by the school for Math for the 2011-2012 school year	Continuous
SY2010-2011 Science	Final grade recorded by the school for Science for the 2010-2011 school year	Continuous
	EWI (69 or below), No EWI (70 or above)	Dichotomous
SY2011-2012 Science	Final grade recorded by the school for Science for the 2011-2012 school year	Continuous
SY2010-2011 Social Studies	Final grade recorded by the school for Social Studies for the 2010-2011 school year	Continuous
	EWI (69 or below), No EWI (70 or above)	Dichotomous
SY2011-2012 Social Studies	Final grade recorded by the school for Social Studies for the 2011-2012 school year	Continuous
SY2010-2011 Promotion/retention	Promoted to the next grade level or retained, based upon final outcome entered by school for the 2010-2011 school year (promoted or retained)	Dichotomous
SY2011-2012 Promotion/retention	Promoted to the next grade level or retained, based upon final outcome entered by school for the 2011-2012 school year (promoted or retained)	Dichotomous

Student Characteristics

Several variables were used to assess differences among varying subgroups of students: sex, grade level, race/ethnicity, and number of years in the program. The dataset had an extensive classification of race/ethnicity; nine categories were used within the dataset. Five of the categories (American Indian or Alaska Native, Black or African American and Hispanic, Asian, and Native Hawaiian/Other Pacific Islander and Hispanic) represented less than three percent (n=11) of the total sample and would not allow for any meaningful interpretation. Therefore, these categories were coded as "Other." Table 4 provides a summary of the student characteristic variables that were used in this study.

Table 4. Summary of Student Characteristic Variables

Variable	Description	Level of Measurement
Sex	Sex recorded by the site coordinator upon intake (male, female)	Dichotomous
Grade Level	Current grade level of student during 2011-2012 school year	Categorical
Race/Ethnicity	Race/ethnicity as recorded by the school (American Indian and Hispanic, African American, Hispanic, White, and Other)	Categorical
Years in Program	Total number of years the student was receiving Level Two services from CIS	Continuous

Service Categories

A wide variety of service categories are provided for the CIS site coordinator to indicate service provision. However, an initial investigation of the dataset indicated a lack of conformity in the usage of service categories and service descriptions. Therefore, a preliminary pilot study was conducted to specifically determine the categories of Level Two services provided. For this pilot study, CIS of Central Texas randomly chose a subset of 25 client records from all of the middle school students who received Level Two services during the 2011-2012 school year

(n=1,743). The client records only contained the written service notes entered by the site coordinator for each student. All identifying information was deleted prior to sending the service notes to the author. The service notes were analyzed in Atlas.ti for thematic content using the constant-comparison method (Strauss & Corbin, 1998).

Data Analysis of Service Notes. Data analysis for the pilot study included several stages and was focused on creating categories of services instead of determining the number of times a service appeared. In the first step, data were consolidated by removing any duplicate entries among the service notes. The data were then analyzed in Atlas.ti using the constant comparison method. Constant comparison analysis is a "systematic search for similarities and differences across interviews incidents, and contexts" (Strauss & Corbin, 1994 as cited in Padgett, 2008, p. 155). Open coding was conducted to construct categories, or themes that adequately described the information from data collection. In open coding, "data are broken down into discrete parts, closely examined, and compared for similarities and differences" (Strauss & Corbin, 1998, p. 102). As a part of open coding, the process of lumping and sorting further allowed the researcher to compare the data and see how they fit together within the categories. Lincoln and Guba (1985), as quoted in Rodwell (1998), define the process of sorting as "comparing each unit with all other data units to identify relevant themes or categories," and the process of lumping as "putting units that seem similar into provisional categories" (p. 156). These categories were gradually modified or replaced during the subsequent stages of analysis that followed. The process was continued until saturation was reached and no new categories emerged from the data. Table 5 presents the 29 categories resulting from the first stage of the constant comparison process.

Table 5. Initial Categories of Services in Pilot Study

Academic support	Health
Anger management	Holiday assistance
Basic health and human services	Life skills
Behavior	Medical
Build rapport	Mentoring
Career skills building	Parent communication
Check-in	Peer relationships
Community service	Processing
Crisis intervention	Provide information or referral
Discuss academics	Show of support for student
Discuss changes	Social skills
Discussion about family	Sports
Extracurricular activities	Staffing
Field trips	Teaching communication
Goal setting	

The next stage involved the process of lumping and sorting the categories in order to progressively move to higher levels of abstraction in a coherent and consistent manner. This constant comparison of study data continued until the number of final categories was reduced to a manageable number. This process yielded 12 categories shown in Table 6.

Table 6. Final Categories in Pilot Study

Academic support	Life skills
Basic health and human services	Mentor
Behavior modification	Parent communication
Check-in	Relationship with a caring adult
Field trip	Supportive counseling
Goal setting- marketable skill	Teacher communication and staffing

Services Categories in Pilot Study. The process of creating the decision rules for categorizing the data was generated by the using the known mission and objectives of Communities In Schools, literature on positive youth development, as well as direct quotes in the codes. A summary of the final categories, examples of codes, relevant literature, and decision rules for each category is provided in Appendix C. Several of the categories emerged because the service notes directly stated the activity such as “field trips,” “check-in,” “mentoring,” and

"teacher communication and staffing." Other categories, such as "relationship with a caring adult" and "goal setting-marketable skill," required knowledge of the relevant literature and the 5 Basics that CIS bases its services upon.

Replication of the Pilot Study. For the current study, a larger sample (5%) of client records were randomly pulled and the steps of the previous pilot study were employed to determine if the categories and decision rules in Appendix C were sufficient or needed to be revised. The records were pulled equally from each school and were representative of the three grade levels.

Service notes were analyzed for thematic content using the constant-comparison method (Strauss & Corbin, 1998) in order to derive the categories of services. Open coding was conducted to construct service categories that adequately described the information from data collection. These categories were gradually modified or replaced and the process continued until saturation was reached and no new categories emerged from the data. The first phase of the process generated 11 service categories (see Table 7). Several of the service categories were identical to those that were found in the pilot study, such as: Academic Support, Basic Health and Human Services, Behavioral Intervention, Check-In, Mentoring, and Supportive Counseling. Four of the service categories were similar to those found in the pilot study, but reflected a broader scope in what services may be delivered within a particular category. For example, the pilot study arrived at the category of "parent communication" and this study arrived at the category of "family engagement" suggesting services provided under the category extend beyond communication or a relaying of information to connecting with a family and supporting a family.

Table 7. Initial Service Categories in Current Study

Academic support	Life/Social skills
Basic health and human services	Mentoring
Behavioral intervention	Family engagement
Check-in	Supportive counseling
Goal setting, college preparation, and career exploration	Consultation, staffing, and teacher communication
	Enrichment and motivation

In the next phase of the process, the researcher and the dissertation co-chairs coded a random sample of 50 service notes and met to discuss the service categories and the associated decision rules. The codebook was refined and the process was repeated until 90% agreement was reached (see Appendix D for the multiple iterations of the codebook). During this iterative process, the service categories were further refined to create sub-categories that better reflect the nuances and breadth within several of the service categories. For example, the service category "Academic Support" was divided into four sub-categories: Assisting the Student with School Work and Tutoring, Discussing School Performance with the Student, Discussing Academic Goals with the Student, and Other Activities or Discussion Related to Academic Support. The sub-categories also differentiate the intensity of application within a service category. For example, the service category "Basic Health and Human Services" was divided into three sub-categories: Provide Basic Health and Human Service Needs to Student and/or Parent, Discussion of the Provision of Basic Health and Human Services Needs with Student and/or Parent, and other Activities or Discussion Related to Basic Health and Human Service Needs. The sheer nature of providing basic needs such as food or school supplies could have different implications in terms of building resilience in a child as opposed to discussing the provision of those basic needs. Finally, to ensure that both the service categories and sub-categories were exhaustive, a service category "Other" was added and a sub-category "Other" was added to each of the service

categories. The service category "Other" was intended to capture services that would not otherwise fit into one of the twelve service categories.

Following the creation of the service categories and decision rules for each category, all of the service notes for each student were read and a service category was assigned to each note. To enhance the rigor of this step in the study, inter-rater reliability was assessed with an independent coder. The independent coder was a first year doctoral student in the School of Social Work who had extensive experience as a school counselor and does not have a social work degree. The independent coder and researcher coded a random sample of 5% of client record service notes using the previously developed decision rules for the service categories. The inter-rater agreement was 87%. There were no changes to the service categories or sub-categories during this phase, although there was clarification provided to two of the decision rules. Specifically in the "Family Engagement" service category, clarification was provided that parent contact, either through phone or mail, that is in regards to basic health and human service needs is not considered "Family Engagement" (it is considered "Basic Health and Human Service Needs") and the sub-category "parent/family involvement" also includes school meetings when both a parent/guardian and site coordinator are present. Table 8 provides the final iteration of the codebook and includes the service categories and sub-categories, the decision rules, and the associated literature. At this point, the codebook was considered to be finalized, and focal coding and analysis for the current study began.

Table 8. Final Codebook of the Service Categories

Service Type	Decision Rule	Sample Quotations	Evidence from Literature or Communities In Schools
Academic support			
1.1	• Assist student with school work or homework • Tutoring • Discuss study strategies with student	• "Met with student to tutor in Language Arts homework." • "CIS staff and the student worked on missing social studies work."	PYD Component- Competence • Problem-solving conversations about progress in school and relationship between school completion and student's regular participation in school results in improved school outcomes (Sinclair, Christenson, & Thurlow, 2005) • Making responsible decisions about studying and completing assignments has been linked to academic achievement (Zins, Weissberg, Wang, & Walberg, 2004) PYD Component- Confidence • Having high expectations, a sense of mastery regarding learning, and setting academic goals has been linked to academic success (Harter, Bresnick, Bouchey, & Whitesell, 1997) • Students who have a perceived ability to succeed academically and a positive attitude toward graduating are more likely to receive their high school diploma (Bradshaw, O'Brennan, & McNeely, 2008)
1.2	• Discuss school work, grades, and/or performance in school with student	• "Student and staff reviewed student's grades. Student was surprised to see he was passing more than he thought." • "Checked student's grades and attendance online. Reminded student of importance of turning in homework and attending tutoring regularly."	
1.3	• Discuss academic goals with student (not to include academic goals related to higher education) o Academic goals related to grades, attendance, or course performance	• "The student reviewed her goals for the year and felt that she just wanted to make sure she completed the year. She feels that she is done with some classes and as long as she passes she will be ok."	
1.4	• Other activities or discussion related to academic support	• "Met with student and talked about applying to different programs in high school. Student talked about pros and cons of each program. Student was unsure of what choice to make. Encouraged student to think about what she wanted."	

Basic health and human services			
2.1	• Provide basic health and human service needs to student and/or parent such as clothing, food, transportation, utility assistance, housing assistance, medical assistance, holiday assistance, school supplies, or victim assistance	• "Provided student with monthly bus pass." • "Provided student with school supplies."	• Helping students deal with barriers that interfere with their ability to attend school decreases dropout rate (Dynarski & Gleason, 2002) • CIS 5 Basics: A safe place to learn and grow; and, A healthy start and a healthy future
2.2	• Discussion of the provision of basic health and human services needs with student and/or parent	• "Phone call to mom about getting sponsored for Christmas. Mom said that would be great and gave me permission to give out her contact information"	
2.3	• Other activities or discussion related to basic health and human service needs	• Not used in this study	
Behavior intervention/modification			
3.1	• Use of problem-solving to either address an issue or learn how to apply skills in a situation • Discuss or use of an intervention designed to decrease or increase a specific behavior	• "Ate lunch. We came up with an incentive driven contract for behavior" • "Talked about goals (anger management). Gave her sheets to work on recording times she gets angry and her feelings."	PYD Component- Competence • Use of a problem-solving approach where the intention is to promote the acquisition of conflict resolution skills and the capacity to seek solutions rather than a source of blame (Sinclair et al., 2005)
3.2	• Discussion of behavior (positive or negative) in school, home, or community • Discuss the use or lack thereof of anger management skills and techniques • Discuss the use or lack thereof conflict resolution skills and techniques (not to include conflict with peers)	• "The student received a suspension for talking while the AP was talking. Discussed the school rules and her feelings on them. The student was frustrated because she felt she was not the only one talking." • "Talked with student about her behavior in her classes. Student realized that she needed to make some improvements and was able to come up with some of her own solutions on how to do so."	
3.3	• Other activities or discussion related to behavior intervention or modification	• Not used in this study	

Check-in			

4	• States it is a "check-in" within the service note
	  ○ As written, appears brief in nature
	  ○ Does not include additional discussion with student such as a lesson or topic
	  ○ "Check-in" is not the beginning portion of a lengthier meeting or discussion with student
		• "Checked in with student briefly in the hallway. She reported things are going well."
		• "Checked in and discussed when I am meeting with her this week."
			PYD Component- Connectedness
			• Students feeling as though there is an adult who cares and available to them and wants them to do their work, attend class regularly, and be on time results in improved school outcomes (Sinclair et al., 2005)

Goal setting, college preparation, and career exploration			
5.1	• Discussion of or employing goal setting (other than immediate academic goals)	• "Discussion about future education plans after high school"	PYD Component- Confidence • Having a positive sense of self, purpose, and efficacy has been linked with academic success (Finn & Rock, 1997) • Having future aspirations is associated with academic success (Harter et al., 1997; Sinclair et al., 2005) • CIS 5 Basics: A marketable skill to use upon graduation
5.2	• Discussion of career fields and higher education • Opportunities to explore higher education and/or career fields to include field trips to colleges, universities, or places of employment	• "The students discussed the type of job they would like to do and how school now plays an important role in their future. They all feel that it is important to be successful now so they can go to college"	
5.3	• Other activities or discussion related to goal setting (other than immediate academic goals), college preparation, and career exploration	• Not used in this study	
Life/Social skills			
6.1	• Discussion of or involvement in community service and service learning	• "Made cards for patients at Dell Children's Hospital." • "Students participated in Keep Austin Beautiful City Wide Cleanup. Students broke up into teams and cleaned the school grounds and worked on the school garden."	• Fostering the development of life skills needed to overcome obstacles leads to increased resiliency (Masten & Coatsworth, 1998) PYD Component- Confidence • Having a positive sense of self, purpose, and efficacy has been linked with academic success (Finn & Rock, 1997)
6.2	• Discussion of leadership skills • Participation in leadership training activities or leadership skill development	• "Practiced for C5 (a leadership program) interview" • "Peer Mediation Training-Day 1."	
6.3	• Discussion of healthy behaviors and health education to include pregnancy prevention and	• "The student discussed the pressure to use drugs and how common it is for her to be	

	substance abuse prevention • Participation in activities related to healthy behaviors and health education	around people that use. She said this makes it hard to not use and that it is easier to accept that it is ok to use drugs." • "Discussed reproductive health, abstinence, etc of Big Decisions curriculum."	PYD Component- Character • Decision-making skills such as social-emotional problem solving and relationship skills have been associated with high school completion (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999) • Social-emotional problem solving and maturity of judgment have been linked with academic achievement (Zins et al., 2004) • Students' prosocial behavior, such as helpfulness, sharing, kindness, and cooperativeness has been associated with increased academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000) PYD Component- Caring and Compassion • Students who are more cooperative and empathetic have better academic performance (Wentzel & Wigfield, 1998) • CIS 5 Basics: A chance to give back to peer and community
6.4	• Discussion of relationship skills ○ Discussion related to knowledge and skill building and skill development • Participation in activities related to relationship skills	• "Discussion on relationships. Internal vs. Physical qualities students look for in a romantic partner." • "Students participated in group activities and were encouraged to build positive peer relationships."	
6.5	• Discussion of decision-making skills, communication skills, and or assertiveness skills ○ Discussion related to knowledge and skill building and skill development • Participation in activities related to decision-making skills, communication skills, and or assertiveness skills	• "Played game Catch Phrase to practice social and communication skills. Students were engaged and excited by game." • "Students participated in assertive communication role play"	
6.6	• Discussion of social-emotional learning such as self awareness, social awareness, emotional regulation, etc ○ Discussion related to knowledge and skill building and skill development • Participation in activities related to social-emotional learning	• "Lesson: Feeling with others. Purpose: To learn that we like to be treated with empathy, so we treat others with empathy, which is a positive action that helps us create a positive identity."	
6.7	• Discussion of or intervening in peer social relationships • Engagement in peer mediation • Discussion of conflict resolution techniques with peers	• "The student discussed a recent conflict with a 7th grader and that the student and a friend plan on bullying the 7th grader to make her feel bad. After discussing the situation with CIS the student does not feel like this is the best plan and to just leave the 7th grader alone would be best."	
6.8	• Other social skills building ○ Discussion related to knowledge and skill building and skill development	• "Question ball activity, general check in" • "Played apples to apples as a way to improve social skills"	

Mentoring			
7	• Involvement with mentor • Meetings, either individually or in group, with mentor	• "Students worked with mentors and made sail cars. Mentors set up two fans and the students divided into two teams to race their sail cars." • "Student met with mentor"	PYD Component- Connection • Mentoring as a component of a dropout prevention program has been found to decrease the dropout rate (Dynarski & Gleason, 2002) • Prosocial bonds are negatively associated with grade retention, suspension, and school dropout (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004) • CIS 5 Basics: A one-on-one relationship with a caring adult
Family engagement			
8.1	• Contact with a parent or guardian either by phone or in person • Home visits ○ Not to include contact regarding basic health and human service needs	• "Talked with student's mother on the phone. She expressed her deep concern for her daughter about her recent behavior of skipping class." • "Home visit with parent. Discussed concerns for student – failing grades, hitting siblings, etc"	PYD Component- Connection • Family outreach and increase in constructive communication between home and school is associated with improved school outcomes (Sinclair et al., 2005) • Parent involvement and engagement in a student's academic life is associated with improved academic achievement and school attendance (Bradshaw et al., 2008) • Parents' involvement and engagement in their child's personal and academic life have been shown to promote academic achievement and school
8.2	• Parent/family involvement ○ Parent/family involvement in school meetings when the site coordinator is present • Parent education/workshops • Family events/celebration	• "Students, parents, and families joined CIS staff and volunteers for an evening of dinner, games and prizes. This event provided families an opportunity to have positive time together and to have a positive experience at the school as well as the opportunity to get to know CIS staff better."	
8.3	• Mailings or emails to parents/guardian ○ Not to include contact regarding basic health	• "Sent home postcard highlighting student's success"	

	and human service needs		attendance (Hoover-Dempsey et al., 2005)
8.4	• Other activities related to family engagement	• Not used in this study	
Supportive counseling			
9.1	• Counseling provided to student that is not clinical or therapy in nature • Processing events or situations in a student's life	• "Student came in and wanted to talk with me about questioning her sexual orientation, feeling confused, and wanting to get some support and tips on how to talk with her mom about all of this."	PYD Component- Character • Social-emotional problem solving and maturity of judgment have been linked with academic achievement (Zins et al., 2004) • Helping students overcome personal, family, and social barriers decreases dropout rate (Dynarski & Gleason, 2002) PYD Component- Connection • Prosocial bonds are negatively associated with grade retention, suspension, and school dropout (Catalano et al., 2004) • CIS 5 Basics: A one-on-one relationship with a caring adult
9.2	• Crisis counseling	• "Emergency counseling with student. Student said that she sometimes does things to hurt herself and I asked her what she meant and she said she cuts herself when things are really bad."	
9.3	• Counseling related to family relationships, issues, or concerns	• "While painting, student disclosed about parents arguing at home. We processed feelings related to this and brainstormed ways to cope."	
9.4	• Other discussion or supportive counseling activities	• "Discussed CIS staff leaving and termination"	
Consultation, staffing, and teacher communication			
10	• Communication with student's teacher, guidance counselor, administrator, or other school staff person regarding student's needs or progress • Communication with another professional regarding student's needs or progress	• "CIS meet with school staff to discuss some safety concerns the student expressed in class." • "Consultation with caseworker about situation with student and about home visit."	PYD Component- Connectedness • Monitoring student progress with a teacher as a component of a program was associated with improved school outcomes (Sinclair et al., 2005)
Enrichment and motivation			
11.1	• Participation in arts, crafts, music, or dance • Participation in recreation, sports, or clubs ○ Must be the primary focus of the activity and not the context for another activity	• "Played a board game to strengthen my relationship with the student. She seemed more quiet than normal, but did not want to talk about anything."	PYD Component- Character • Students' prosocial behavior, such as helpfulness, sharing, kindness, and cooperativeness has been associated with increased academic achievement (Caprara
11.2	• Field trips (other than higher education or career exploration)	• "Students and staff got a tour of the Umlauf sculpture garden and learned about	

		Umlauf and sculpting, and had the opportunity to take lots of pictures."	et al., 2000) PYD Component- Connection • Participation in extracurricular activities is associated with reduced dropout rates (Rumberger, 1995). • Feeling part of a school community has a strong impact on academic performance (Farrington et al., 2012)
11.3	• Awards and recognition ceremonies/events	• "Students awarded the Sunshine award to the camper they appreciated that day."	
11.4	• Other enrichment and motivation activities	• "Celebrated student's sister's birthday with lunch in the courtyard. Shared cupcakes and discussed plans for family birthday dinner."	
Assessment and Orientation			
12	• Conduct assessment or intake into the program • Provide orientation or general overview of the program • Conduct pre or post-tests or surveys	• "Assessment" • "Student completed post survey and CIS student survey."	
Other			
13	• Discussion or participation in an activity that is not listed above	• "Ate lunch" • "Lunch bunch"	

Analysis Plan

Coding Service Notes

Once inter-rater agreement was achieved, every service note in the dataset was coded according to the definitions in the codebook. After this, the total amount of time for each service category for each student was calculated. The dataset included the amount of time in quarter hour increments for each service note. In addition to noting the total amount of time, the service categories were also coded dichotomously for each student as "1" for receiving that particular service and "0" for not receiving it. This allowed for analysis of both the receipt of services as well as intensity of services.

Services Received

The analysis of the services received involved a series of steps that examined the broad service categories as well as each service sub-category utilizing univariate analysis techniques. In the first step, the aim was to determine the percentage of students receiving each service category through the use of frequency tables. For example, 10% of the students are receiving service A and 70% of students are receiving service B. The next step investigated the intensity of the service categories. Frequency tables and descriptive statistics were used to examine various factors such as the range of hours received, mean, and the median. For example, for the 10% of students receiving service A, the total amount of time may range from 0.5 hours to 7 hours yet 80% of the students receive 2-3 hours.

Another step began to explore the patterns of the service categories. The inspection started with the lowest total number of service categories received and examined the percent of students who received each of the service categories. For example, if the lowest total number of service categories received is 4, among the students who received 4 types of services, what

percentage receive service A, service B, service C, etcetera. This information was recorded in a table to capture how many students repeated this pattern.

Services, Student Characteristics, and Prior Year Outcomes

Following the examination of the services received, the inspection continued to look at whether or not there are any differences between and among student characteristics and prior year outcomes. Univariate procedures, such as measures of central tendency, standard deviation and percentiles, where appropriate, were employed. This was an iterative process as possible patterns began to emerge. As the inspection became more complex, the services were examined to determine if there were any base services that were universally provided for all students or for all students based upon a particular characteristic and or prior year outcome. While this process was primarily descriptive, bivariate statistical tests (e.g. Chi-square, ANOVA, t-tests) were used to examine whether students with given characteristics were significantly more likely to be receiving one or more particular services.

Relation of Services to Student Outcomes

The final step of the analysis employed multiple regression analysis to examine in what ways the services are related to student outcomes by the end of the school year. Multiple regression analysis is a statistical technique that can be applied to predict the value of a dependent variable based on the value of two or more independent variables (Tabachnick & Fidell, 2007). OLS regression was used for continuous outcome variables (attendance, discipline referrals, and final grades in core subjects), and logistic regression was used for the dichotomous outcome (promotion/retention). The services served as independent variables and the prior year outcomes and student characteristics served as control variables. Prescreening procedures were conducted to address the specific assumptions underlying OLS regression analysis and logistic

regression analysis. The data were screened for missingness, outliers, multicollinearity, and homoscedasticity. SPSS version 22 was used for all data analysis, including prescreening procedures.

The models were built in a series of successive steps where variables were individually added and then removed or retained based upon a statistical significance at the $p<.05$ level (see Table 9). A baseline model was built for each of the dependent variables (SY2011-2012 outcomes) using the prior year outcomes and student characteristics in order to examine how much of the variance in SY2011-2012 outcome variables can be explained by factors that described the student as she/he entered the focal school year. The development of the baseline model proceeded through three steps: first prior year outcome; then adding prior year number of EWIs; then including student characteristics (i.e. sex, race/ethnicity, grade level, number of years in the program). Following the creation of a baseline model, the global indicators of service use (total number of service types, total number of hours) were added to the model (individually) to see if these broad-level indicators of service provision helped to explain variance in outcomes. Finally, services were entered individually and either removed or retained based upon statistical significance to determine whether specific types or amounts of services helped to further explain observed variation in each outcome, beyond that captured by individual factors and global measures of service receipt. At each step, significant variables were retained. Once all of the services (both distinct categories and number of hours) were examined individually, the final model was run with all significant variables.

Table 9. Variable and Analysis Matrix

Independent Variables	
Step 1 SY2010-2011 Outcome Step 2 Number of EWIs Only those significant at $p<.05$ are retained for next step Step 3 Student Characteristics (Sex, Grade Level, Race/Ethnicity, Years in Program) Only those significant at $p<.05$ are retained for next step Step 4 Total Number of Service Types Total Number of Hours Only those significant at $p<.05$ are retained for next step Step 5 Distinct Service Type Number of Hours for Each Distinct Service Type	
Dependent Variables	**Multivariate Analysis Procedure**
SY2011-2012 Attendance SY2011-2012 Discipline referrals SY2011-2012 ELA SY2011-2012 Math SY2011-2012 Science SY2011-2012 Social Studies	OLS Regression
SY2010-2011 Promotion/Retention	Logistic Regression

Institutional Review Board

Data from the study were de-identified prior to receipt by this researcher. In accordance with Virginia Commonwealth University's (VCU) IRB guidelines, further IRB review is not required if a secondary researcher cannot identify any human subjects from a primary study. Therefore, the IRB declared that the study did not require IRB review.

Conclusion

The goal of this secondary data analysis is to provide a beginning understanding of Level Two services relationship with student outcomes and explore whether service provision varies systematically in relation to student outcomes and student characteristics. This chapter has

described the overall research design, methodology, and data analysis plan. The results of this study will be divided into two subsequent chapters. Chapter Four will present the findings from the data analysis for the first research question: What Level Two services are provided to students by Communities In Schools? Chapter Five will continue the results section by presenting the findings of the data analysis for the second and third research questions about relationships between student characteristics and service receipt, and relationships between service receipt and end-of-year school outcomes.

CHAPTER 4

Results- Service Provision

This chapter is a summary of the findings from the analyses conducted to answer the first research question: What Level Two services are provided to students by Communities In Schools? The first section, *Sample,* discusses the descriptive statistics that were conducted to describe the sample. The next two sections, *Number of Service Types* and *Hours of Services Received,* examine the distributions of two key volume constructs: (1) number of types of services received, and (2) amount of services (in hours) received. The analysis begins with a description of what types of services were provided and how many of these discrete categories each student received. It then examines the "dose" or amount of service that were provided. The fourth section, *Service Patterns,* explores possible patterns of service provision by examining the types of services received for each of the total number of service types received.

Sample

Student Characteristics

The sample for this study is comprised of Level Two students who were in the 6^{th}-8^{th} grade during the 2011-2012 school year and have 2010-2011 end of year school outcomes. Students who received services for less than half of the 2011-2012 school year (four months or less) were excluded from this study (n = 50). For the 437 participants included in this sample, 54.7% (n=239) are female and 45.3% (n=198) are male (see Table 10). Hispanic students represent approximately half of the sample (49.4%, n=261). The sample includes students who

are both American Indian and Hispanic (20.8%, n=91), African American (16.7%, n=73), White (10.5%, n=46), and students categorized as "Other" races (2.5%, n=11).

Table 10. Sex and Race/Ethnicity of the Study Sample

Variable	Frequency	Percent
Sex		
Female	239	54.7
Male	198	45.3
Race/Ethnicity		
Hispanic	261	49.4
American Indian and Hispanic	91	20.8
African American	73	16.7
White	46	10.5
Other	11	2.5

During the 2011-2012 school year (the year the students received the services), 3.2% of the sample were in the 6th grade, 51.9% were in the 7th grade, and 44.9% were in the 8th grade. The percentage of students at each of the 16 schools ranged from 0.7% to 10.3%; however, the largest concentration of students (between 5% and 8.9%) attended one of ten schools (see Table 11). The number of years the students in this sample had received Level Two services prior to the service year ranged from half a year to 8 years (M=1.74, SD=1.70). Over half of the sample received one year or less of services prior to the focal year (64.5%, n=282).

Table 11. Student Characteristics of the Study Sample

Variable	Frequency	Percent	Cumulative Percent	Mean	SD
SY2011-2012 Grade Level				7.42	.56
6^{th}	14	3.2	3.2		
7^{th}	227	51.9	55.1		
8^{th}	196	44.9	100		
Middle School					
School A	37	8.5	8.5		
School B	39	8.9	17.4		
School C	26	5.9	23.3		
School D	27	6.2	29.5		
School E	39	8.9	38.4		
School F	40	9.2	47.6		
School G	31	7.1	54.7		
School H	9	2.1	56.8		
School I	22	5.0	61.8		
School J	27	6.2	68.0		
School K	3	0.7	68.6		
School L	20	4.6	73.2		
School M	5	1.1	74.4		
School N	45	10.3	84.7		
School O	29	6.6	91.3		
School P	38	8.7	100.0		
Years in the Program				1.74	1.70
.50	155	35.5	35.5		
1	127	29.1	64.5		
2	56	12.8	77.3		
3	29	6.6	84.0		
4	29	6.6	90.6		
5	14	3.2	93.8		
6	20	4.6	98.4		
7	3	.7	99.1		
8	4	.9	100.0		

Prior Year Outcomes

This analysis used academic outcome variables consistent with the early warning indicators literature. The prior year academic outcomes were used as another student characteristic with which to categorize students as they entered the focal year. Attendance, measured as total number of absences, ranged from zero to 60 and the mean number of absences

was 9.51(SD=10.62). Discipline referrals, measured as total number of discipline referrals, ranged from zero to 49, and the mean was 2.83 (SD=6.41). The four core subjects that were measured (English/Language arts, math, science, and social studies) had similar means and similar ranges (see Table 12) showing an average grade of approximately 80 (on a scale of 0-100) across subjects. Nearly all of the students (98.8%, n=432) were promoted at the end of the 2010-2011 school year.

Table 12. Student Outcomes for the 2010-2011 School Year

Variable	Mean	SD	Minimum	Maximum
Attendance	9.51	10.62	0	60
Discipline Referrals	2.83	6.41	0	49
English/Language Arts	79.78	9.02	50	100
Math	79.37	9.17	50	100
Science	80.88	8.57	50	100
Social Studies	81.28	8.39	49	99

Early Warning Indicators. As discussed in Chapter Three, the prior year academic outcomes (with the exception of promotion/retention) were each collapsed into two categories to reflect the number (in the case for absences and discipline referrals) or numeric grade (in the case for the core subject areas) that would indicate a "red flag" or EWI category and the absence of an EWI. Less than ten percent of the sample (7.1%, n=31) were missing data on at least one of the prior year outcomes. For those students, the total number of EWIs was calculated for the data that were present. No students were missing all prior year outcomes.

A majority of the students (72.5%, n=317) did not have any EWIs (see Table 13). Overall, the mean number of EWIs for the sample was .48 (SD=1.00). These numbers are probably slightly conservative given that the students who had some missing data were included in these calculations.

The literature on EWIs suggests that in middle school some of the students who had no intervention will have just one indicator: failing a single subject, not attending school regularly, or misbehaving (Balfanz, 2009). For the students in this sample who had one indicator, 69.3% were failing a single subject, 4% had high absenteeism, 26.3% had a high number of disciplinary assignments, and 4% were retained at the end of the school year. The literature further suggests that most students will have two indicators; failing in one core subject area and either high absenteeism or high number of disciplinary referrals (Balfanz, 2009; Balfanz, Herzog, & Mac Iver, 2007). Approximately 4% of this sample (4.3%, n=19) had two indicators; however, all of the students in the sample had received at least some services during the year these prior year outcomes were collected. Therefore, this number may be lower than the early warning literature suggests because the students had received some services. For the students in this sample who had two indicators, 10.5% were failing in one core subject area and had high absenteeism and 42.1% were failing in one core subject area and had a high number of disciplinary referrals. The other students had high absenteeism and high number of disciplinary referrals (15.8%) and were failing in two core subject areas (26.3%).

Table 13. Frequency Distribution of Early Warning Indicators

Number of EWIs	Frequency	Percent	Cumulative Percent
0	317	72.5	72.5
1	76	17.4	89.9
2	19	4.3	94.2
3	11	2.5	96.7
4	8	1.8	98.5
5	5	1.1	99.8
6	1	.2	100

Number of Service Types

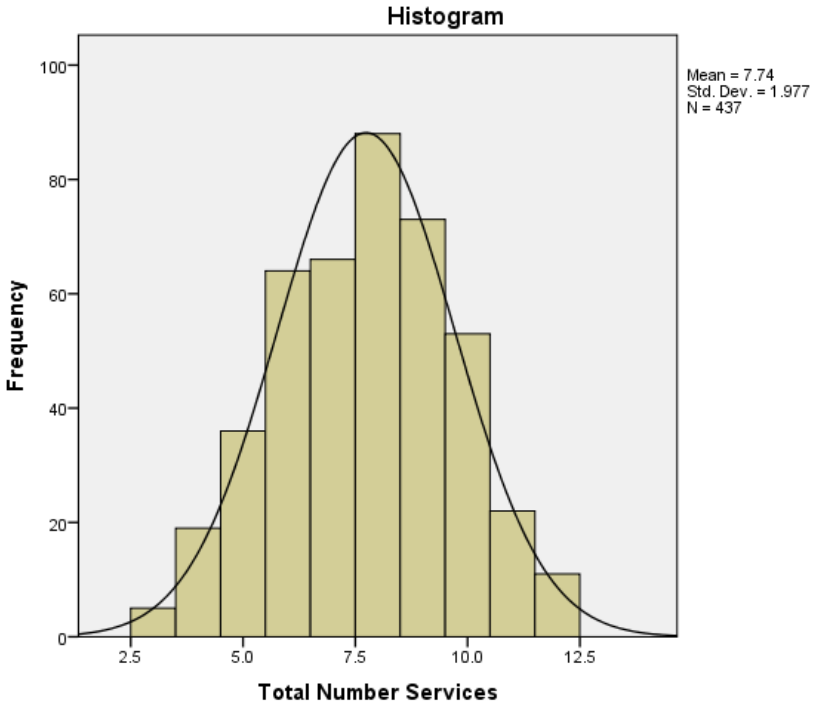
The following discussion will examine the distributions of the first key service use construct, the number of service types received. The service types discussed in this section are analogous to the thirteen broad service categories (e.g. Academic Support, Life/Social Skills, Assessment and Orientation) that were derived from the thematic analysis of the service notes. Hence, given that there were 13 included service categories, the potential range for this construct was 0 (no services) to 13 (every type of service was received). The following discussion will examine the number of service types students received during the focal year (2011-2012 school year); that is, the number of the broad service categories that students received.

The total number of service types received by CIS students in this sample ranged from 3 to 12 (see Table 14), and no student received all 13 service types. The mean number of service types received was 7.74 (SD 1.98) and the median was 8. A small number of students (13.7%, n=60) received five or fewer service types, and a small number (7.6%, n=33) received 11 or 12 service types. The majority of students (78.7%, n=344) received between 6 and 10 service types. As seen in Table 14 and Figure 3, the frequency distribution approximates a normal distribution.

Table 14. Total Number of Service Types Received

Total Number of Service Types	Frequency	Percent	Cumulative Percent
3	5	1.1	1.1
4	19	4.3	5.5
5	36	8.2	13.7
6	64	14.6	28.4
7	66	15.1	43.2
8	88	20.1	63.6
9	73	16.7	80.3
10	53	12.1	92.4
11	22	5.0	97.5
12	11	2.5	100
Total	437	100	

Figure 3. Histogram of Total Number of Service Types Received



Categorization of Number of Service Types Received

Further examination of the percentage of students who received each service type revealed that some service types were delivered to many more students than others. The service types were sorted into three groups: service types received by a majority of the students; service types received by approximately half of the students; and, service types received by fewer than a quarter of the students (see Table 15). In Group One, service types received by a majority of the students, the percentage of students who received one of these service types ranged from 69.8%-100%. In Group Two, service types received by approximately half of the students, the percentage of students who received a service type ranged from 41.4%-45.8%. And, in Group Three, service types received by fewer than a quarter of the students, the percentage of students who received a service type ranged from 12.4%-21.7%.

Eight service types are classified in Group One, service types received by a majority of the students. All of the students in this sample received Assessment and Orientation services. Following Assessment and Orientation services, the most common service type provided was Life/Social Skills (85.1%, n=372). Two service types in this group, Academic Support services and Goal Setting services, were provided to 69.8% (n=305) of the students. And, Enrichment and Motivation services were provided to the smallest number of students in this group (64%, n=280).

Table 15. Number of Students Receiving Each Service Type

Service Types Received by a Majority								
Received Services	Enrichment and Motivation	Academic Support	Goal Setting	Consultation, Staffing, and Teacher Communication	Family Engagement	Supportive Counseling	Life/ Social Skills	Assessment and Orientation
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
Yes	280 (64.1)	305 (69.8)	305 (69.8)	342 (78.3)	355 (81.2)	366 (83.8)	372 (85.1)	437 (100)
No	157 (35.9)	132 (30.2)	132 (30.2)	95 (21.7)	82 (18.8)	71 (16.2)	65 (14.9)	0 (0)
Total	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)

Service Types Received by Approximately Half		
Received Services	Basic Health and Human Services	Check-in
	n(%)	n(%)
Yes	200 (45.8)	181 (41.4)
No	237 (54.2)	256 (58.6)
Total	437 (100)	437 (100)

Service Types Received by Fewer Than A Quarter			
Received Services	Behavior Intervention/ Modification	Mentoring	Other
	n(%)	n(%)	n(%)
Yes	95 (21.7)	91 (20.8)	54 (12.4)
No	342 (78.3)	346 (79.2)	383 (87.6)
Total	437 (100)	437 (100)	437 (100)

Two service types are classified in Group Two, service types received by approximately half of the students. This group of services included Basic Health and Human Services (45.8%, n=200) and Check-In services (41.4%, n=181).

Three service types are classified in Group Three, service types received by less than a quarter of the students. Approximately the same number of students received Behavior Intervention/ Modification services and Mentoring services (21.7%, n=95 and 20.8%, n=91 respectively). The service types that was provided the least is Other services (12.4%, n=54). As noted above, Other services included services that could not be classified in a more specific category (e.g. ate lunch, attended lunch bunch).

Number of sub-types. The number of students who received each type of service was further examined by looking within each of the broad service types to examine the more specific sub-types. This section utilizes the classification of service types received by a majority, approximately half, and fewer than a quarter that was presented in the previous section to examine each of the sub-types.

Service types received by a majority. The sub-types examined within Group One, service types received by a majority of the students, are discussed in the order of service type received by the lowest percentage of students to the highest. Two service types, Consultation, Staffing, and Teacher Communication and Assessment and Orientation services, do not have any sub-types and are not discussed in this section.

Table 16 provides the frequencies of each sub-type of Enrichment and Motivation services. Slightly more than half of the students (57.7%, n=252) participated in Arts, Crafts, Recreation or Sports Activities and 16.2% (n=71) participated in Field Trips that were not Related to Career Exploration or Higher Education.

Table 16. Number of Students Receiving Each Enrichment and Motivation Sub-type of Service

	Enrichment and Motivation Sub-types			
Received Services	Arts, Sports, Clubs n(%)	Field Trips n(%)	Awards n(%)	Other n(%)
Yes	252 (57.7)	71 (16.2)	50 (11.4)	1 (.2)
No	185 (42.3)	366 (83.8)	387 (88.6)	436 (99.8)
Total	437 (100)	437 (100)	437 (100)	437 (100)

Table 17 provides the frequencies of each sub-type of Academic Support services. The same number of students received Tutoring or Assistance with School Work and Discussion of Grades or School Performance (38.9%, n=170). A much smaller number of students received Academic Goal Setting (16.2%, n=71).

Table 17. Number of Students Receiving Each Academic Support Sub-type of Service

	Academic Support Sub-types			
Received Services	Tutoring n(%)	Discuss Grades n(%)	Academic Goals n(%)	Other n(%)
Yes	170 (38.9)	170 (38.9)	71 (16.2)	144 (33.0)
No	267 (61.1)	267 (61.1)	366 (83.8)	293 (67.0)
Total	437 (100)	437 (100)	437 (100)	437 (100)

Table 18 provides the frequencies of each sub-type of Goal Setting, College Preparation, and Career Exploration services. A little more than half of the students received Discussion of Career Fields and College Exploration (54.2%, n=237) and nearly half of the students received Goal Setting (42.1%, n=184).

Table 18. Number of Students Receiving Each Goal Setting, College Preparation, and Career Exploration Sub-type of Service

	Goal Setting, College Preparation, and Career Exploration Sub-types		
Received Services	Goal Setting n(%)	Career Fields & College Exploration n(%)	Other n(%)
Yes	184 (42.1)	237 (54.2)	0 (0)
No	253 (57.9)	200 (45.8)	437 (100)
Total	437 (100)	437 (100)	437 (100)

Table 19 provides the frequencies of each sub-type of Family Engagement services. A majority of students (71.4%, n=312) received Mailings or Emails to their Parent/Guardian and approximately a third (38.4%, n=168) received Contact with a Parent or Guardian either by Phone or in Person. The most intense level of Family Engagement, Parent/family involvement in school meetings or Events, was provided to the fewest families (20.4%, n=89).

Table 19. Number of Students Receiving Each Family Engagement Sub-type of Service

	Family Engagement Sub-types			
Received Services	Phone or Person n(%)	Involvement n(%)	Mail or Email n(%)	Other n(%)
Yes	168 (38.4)	89 (20.4)	312 (71.4)	0 (0)
No	269 (61.6)	348 (79.6)	125 (28.6)	437 (100)
Total	437 (100)	437 (100)	437 (100)	437 (100)

Table 20 provides the frequencies of each sub-type of Supportive Counseling services. A majority of the students received Non-Clinical Counseling (81.2%, n=355) and approximately a third received Counseling Related to Family Concerns and Relationships (35.5%, n=155). Fewer than 10% of students received Crisis Counseling (n=43).

Table 20. Number of Students Receiving Each Supportive Counseling Sub-type of Service

	Supportive Counseling Sub-type			
Received Services	Counseling n(%)	Crisis Counseling n(%)	Family Concerns n(%)	Other n(%)
Yes	355 (81.2)	43 (9.8)	155 (35.5)	1 (.2)
No	82 (18.8)	394 (90.2)	282 (64.5)	436 (99.8)
Total	437 (100)	437 (100)	437 (100)	437 (100)

Table 21 provides the frequencies of each sub-type of the Life/Social Skills services. A majority of the students (62.2%, n=272) received Discussion of Relationship Skills and close to half of the students received Discussion of Social-Emotional Learning (48.5%, n=212). The least

received sub-types of Life/Social Skills were Leadership Skills and services classified as "Other" (8.7%, n=38 and 12.4%, n=54 respectively).

Table 21. Number of Students Receiving Each Life/Social Skills Sub-type of Service

	Life/Social Skills Sub-type							
Received Services	Community Service	Leader-ship Skills	Healthy Behaviors	Relation-ship Skills	Decision-making	Social-emotional	Peer Social Relation-ships	Other
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
Yes	123 (28.1)	38 (8.7)	148 (33.9)	272 (62.2)	115 (26.3)	212 (48.5)	128 (29.3)	54 (12.4)
No	314 (71.9)	399 (91.3)	289 (66.1)	165 (37.8)	322 (73.7)	225 (51.5)	309 (70.7)	383 (87.6)
Total	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)	437 (100)

Service types received by approximately half. The second set of sub-types examined is those within Group Two, service types received by approximately half of the students. One service type, Check-In services, does not have any sub-types and is not discussed in this section. Table 22 provides the frequencies of each sub-type of Basic Health and Human Services. A higher percentage of students received the Provision of a Basic Health and Human Service (38.7%, n=169) than those who only received the Discussion of the Provision of Basic Health and Human Services (19.2%, n=84).

Table 22. Number of Students Receiving Each Basic Health and Human Services Sub-type of Service

	Basic Health and Human Services Sub-types		
Received Services	Provision of	Discussion of	Other
	n(%)	n(%)	n(%)
Yes	169 (38.7)	84 (19.2)	0 (0)
No	268 (61.3)	353 (80.8)	437 (100)
Total	437 (100)	437 (99.9)	437 (100)

Service types received by fewer than a quarter. The third set of sub-types examined is those within Group Three, service types received by fewer than a quarter of the students. Two service types, Mentoring and Other services, do not have any sub-types and are not discussed in

this section. Table 23 provides the frequencies of each sub-type of Behavior Intervention/ Modification services. Approximately 20% of the students (n=88) participated in a Discussion of their Behavior, Anger Management Skills, or Conflict Resolution Skills. A much smaller percentage (4.1%, n=18) participated in Problem Solving or an Intervention Designed to Address a Specific Behavior.

Table 23. Number of Students Receiving Each Behavior Intervention/ Modification Sub-type of Service

	Behavior Intervention/ Modification Sub-types		
Received Services	Problem-solving or Intervention	Discuss Behavior or Anger Management	Other
	n(%)	n(%)	n(%)
Yes	18 (4.1)	88 (20.1)	0 (0)
No	419 (95.9)	349 (79.9)	437 (100)
Total	437 (100)	437 (99.9)	437 (100)

Summary of Number of Service Types Received

The data in this analysis indicate that the total number of service types ranged from 3 to 12, and the majority of the students received between 6 and 10 service types. The service types were sorted into three groups: service types received by a majority of the students; service types received by approximately half of the students; and, service types received by fewer than half of the students. Eight of the service types (of the possible 13) were received by a majority of the students, including Assessment and Orientation which was received by all of the students.

The examination of the sub-types within each of the broad service types found that some of the sub-types were provided to more students than the other sub-types within a given service type. For example, within the sub-types of Enrichment and Motivation services approximately 58% of the students received Arts, Crafts, Recreation or Sports Activities whereas 16% received Field Trips. There was also variation among some of the sub-types where there is a differentiation in the intensity of the sub-type or a sub-type that involves more direct contact than

another sub-type. For example, within the sub-types of Family Engagement services approximately 71% of the students received Mailings or Emails to Their Parent/Guardian, 38.4% received Contact with a Parent or Guardian Either by Phone or in Person. The most intense level of Family Engagement, Parent/family Involvement in School Meetings or Events, was provided to the fewest families (20.4%).

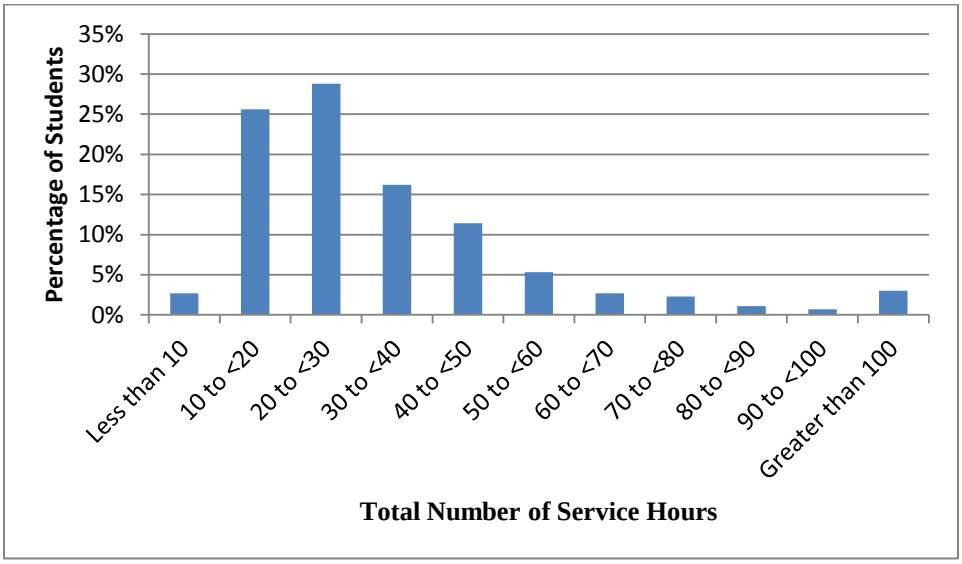
Amount of Services Received

Service volume during the year includes the number of service types received (as discussed above) and also the number of hours of services received. The following discussion will examine the distributions of this second key volume construct, the amount of services (in hours) received. This begins with a tally of total number of hours of service received over the course of a school year. This is then disaggregated to examine the amount of service provided in each of the service types and, for further detail, among each of the subtypes within services types.

Total Number of Hours Received

The total number of hours received over the course of the school year ranged from 4.25 to 228.25. The mean number of hours received was 34.56 (SD = 28.03) and the median was 27.5 hours. Figure 4 shows the total number of hours collapsed into ten hour increments by the percentage of students. The distribution appears to be concentrated in the 10 hours to 29 hours of services range. Total service hours for over half of the students (54.5%, n=238) fell within this range. Another quarter of the students received between 30 and 49 hours of services (27.6%, n=121). Few students received less than 10 hours, and few received more than 60 hours. Appendix E provides a frequency table of the total number of hours received.

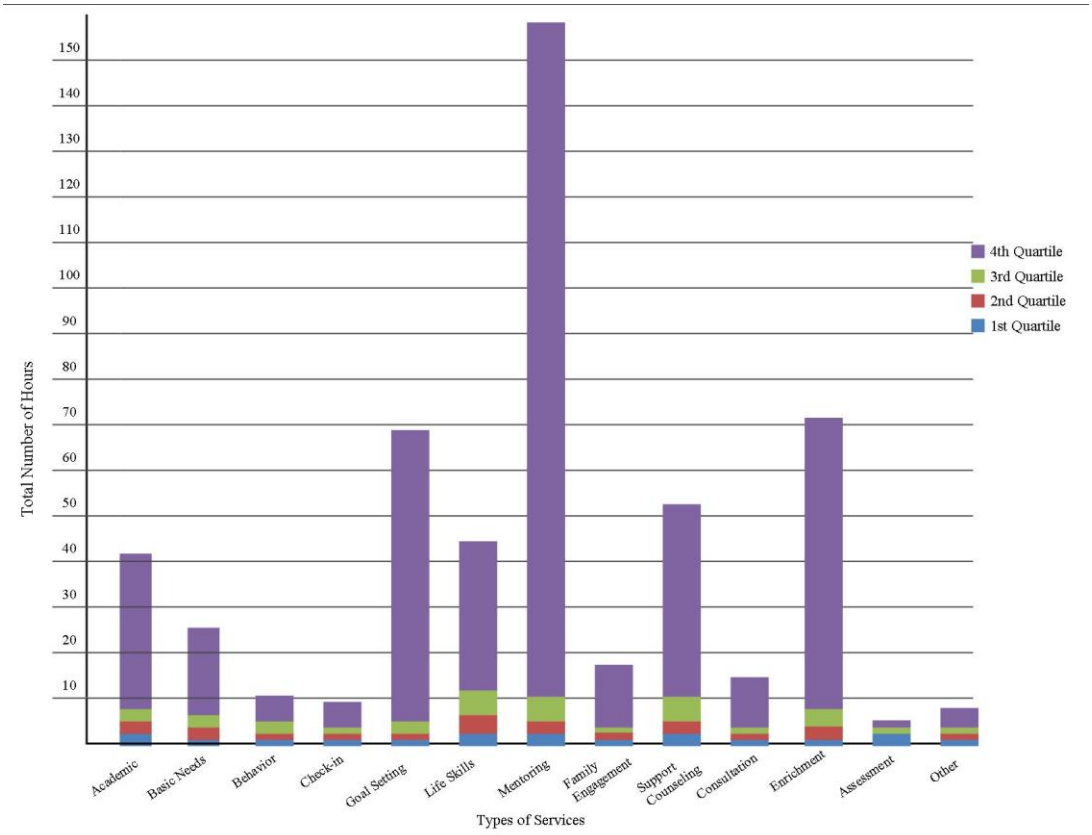
Figure 4. Total Number of Service Hours Received in Ten Hour Increments



Number of Hours of Each Type of Service Received

The number of hours received within each type of service varied greatly. Figure 5 illustrates the quartile distribution of the total number of hours provided to students in each service type. Several of the service types such as Basic Health and Human Services, Goal Setting, and Family Engagement had very low hours in the 1st, 2nd, and 3rd quartile and much higher numbers of hours in the 4th quartile. This suggests a majority of students are receiving a low number of hours in these service types, and a smaller percentage is receiving a high number of hours.

Figure 5. Quartile Distribution of Number of Hours Received by Service Type



Descriptive statistics for the number of hours received within each service type were examined. The results will be presented using the classification of service types discussed in the previous sections: service types received by a majority; service types received by approximately half; and, service types received by fewer than a quarter the students.

Service hours within service types received by a majority of the students. Table 24 shows that some of the service types in this group were provided at much lower amounts than others. All of the students in this sample received Assessment and Orientation services, but the number of hours provided ranged from one to five (M=2.26, SD=.50). Family Engagement services is another service type that was provided to a high percentage of students, but the

students did not receive very much of this type of service. The number of hours provided ranged from a quarter of an hour to 17.50 hours, yet the median number of hours provided was one hour.

Two of the service types, Supportive Counseling and Life/Social Skills services, were provided at higher rates. The number of hours of Supportive Counseling ranged from a quarter of an hour to 52 hours and the median was five hours, and the number of hours of Life/Social Skills ranged from a quarter of an hour to 44.75 and the median was seven hours. The number of hours of Academic Support ranged from a quarter of an hour to 40.5 hours. The mean was 5.47 hours and the median was three hours.

Table 24. Number of Hours Received within Service Types Received by a Majority of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by a Majority					
Enrichment and Motivation	8.55	3.62	13.16	.25	71.00
Academic Support	5.47	3.00	6.67	.25	40.50
Goal Setting, College Preparation, and Career Exploration	4.48	1.50	8.20	.25	69.75
Consultation, Staffing, and Teacher Communication	1.18	.50	1.57	.25	15.00
Family Engagement	1.89	1.00	2.45	.25	17.50
Supportive Counseling	6.73	5.00	5.97	.25	52.00
Life/Social Skills	8.39	7.00	7.12	.25	44.75
Assessment and Orientation	2.26	2.00	.50	1.00	5.00

Service hours within service types received by approximately half of the students.

The total number of hours received in this group of service types also varied widely (see Table 25). Nearly half of the students in the sample received Basic Health and Human Services and nearly half received Check-in, yet the median number of hours they received was low (1.25 and .75 respectively.

Table 25. Number of Hours Received within Service Types Received by Approximately Half of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by Approximately Half					
Basic Health and Human Services	3.09	1.25	4.34	.25	26.25
Check-in	1.24	.75	1.44	.25	8.75

Service hours within service types received by fewer than a quarter of the students. Although the service types in this group were not provided to the highest percentage of students, the number of hours that were provided was comparable with service types in the other groups (see Table 26). The number of hours of Behavior Intervention/ Modification ranged from .25 to 10 hours and the median was one hour. The number of hours of Mentoring ranged from a quarter of an hour to 158 hours. The mean was nearly ten hours (M=9.85, SD=21.54) and the median was only five hours. This suggests that for many of the students who received Mentoring services, they did not receive a large quantity of the service.

Table 26. Number of Hours Received within Service Types Received by Fewer than a Quarter of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by Fewer Than A Quarter					
Behavior Intervention/ Modification	1.75	1.00	1.61	.25	10.00
Mentoring	9.85	5.00	21.54	.25	158.00
Other	2.33	1.50	2.08	.25	8.50

Number of Hours of Each Sub-type of Service Received

The previous discussion of the total number of hours received within each type of service revealed substantial variation between the service types. This can be more fully understood and explored by examining the number of hours of each specific sub-type of services that were provided. The following section provides an overview of the number of hours of each service

sub-type that were provided within the sample. The discussion of the subtypes will be presented using the classification of service types discussed in the previous sections: service types received by a majority; service types received by approximately half; and, service types received by fewer than a quarter the students.

Service hours of sub-types within service types received by a majority of the students. Several of the sub-types of services mirrored the variation seen in the service types, although the median number of hours received was fairly consistent among the sub-types (see Table 27). Among the Academic Support sub-types, the number of hours received in Tutoring ranged from a quarter of an hour to 36.5 hours and the median was three hours. The sub-types Discuss Grades and Discuss Academic Goals were provided with similar intensity (Mdn=1.38 and Mdn=1.00, respectively). More than half of the students received the Goal Setting sub-type, Discussion of Career Fields and Higher Education, yet the median was only 1.25. The range of hours received for this sub-type was .25 to 66.75 hours, suggesting a majority of the students received a small amount of this service.

Although the percentage of students who received the Life/Social Skills sub-types ranged from 8.7% to 62.2%, the median number of hours received for each sub-type was similar. While the ranges do vary from a low of Decision-making and Communication (.25-7.00 hours) to a high Relationship skills (.25-37.00 hours), the medians are between one and two hours. Among the Family Engagement sub-types, the lowest number of hours is also the sub-type that is the least direct or personal. The number of hours received in Mail or Email Communication ranged from a quarter of an hour to 2.75 hours and the median was half an hour. The most direct or personal form of Family Engagement, Parent/family Involvement Activities, had the highest range and median (range=8.25, Mdn=2.00).

Table 27. Number of Hours Received of Sub-types within Service Types Received by a Majority of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by a Majority					
Enrichment and Motivation					
Arts, Sports, Clubs	5.46	3.00	7.00	.25	50.00
Field Trips	13.32	8.00	13.24	.50	55.00
Awards	1.40	1.50	.65	.25	3.00
Other	3.00	3.00	0	3.00	3.00
Academic Support					
Tutoring	5.90	3.00	7.14	.25	36.50
Discuss Grades	1.94	1.38	1.67	.25	10
Academic Goals	1.15	1.00	.93	.25	5.00
Other	1.77	1.00	2.23	.25	12.00
Goal Setting					
Goal Setting	1.49	1.00	1.35	.25	6.25
Career Fields & College	4.59	1.25	8.95	.25	66.75
Family Engagement					
Phone or In-person	1.40	.75	1.50	.25	8.00
Parent/family Involvement	2.42	2.00	1.67	.25	8.50
Mail or Email	.71	.50	.53	.25	2.75
Supportive Counseling					
Counseling	5.75	4.25	5.35	.25	52.00
Crisis Counseling	1.67	1.00	1.51	.25	7.50
Family Concerns	2.24	1.50	2.08	.25	15.00
Other	.50	.50	0	.50	.50
Life/Social Skills					
Community Service	2.99	2.00	2.71	.25	12.00
Leadership Skills	3.24	1.50	3.97	.25	14.50
Healthy Behaviors	2.82	1.88	2.83	.25	16.25
Relationship Skills	3.23	2.00	3.88	.25	37.00
Decision-making and Communication	1.72	1.00	1.20	.25	7.00
Social-emotional	3.72	2.50	3.90	.25	23.00
Peer Relationship Skills	1.94	1.00	1.83	.25	12.75
Other	1.88	1.00	1.50	.50	6.50

Among the Supportive Counseling sub-types, Non-Clinical Counseling was provided to the highest percentage of students and was provided at the highest intensity (range=51.75, Mdn=4.25). Less than a quarter of the students (16.2%) received the Enrichment and Motivation

sub-type Field Trips, yet students received a median of eight hours over the course of the school year. This is not surprising given that field trips are typically a time-intensive activity.

Service hours of sub-types within service types received by approximately half of the students. As shown in Table 28, the sub-type of Basic Health and Human Services that is more direct, the Provision of Basic Needs and Human Services, had a higher median number of hours (1.50) than the sub-type that is less direct, the Discussion of Basic Needs and Human Services (Mdn=0.50). However, the number of hours of Provision of Basic Needs and Human Services received ranged from .25 to 26.25 hours, suggesting that some students received a high amount of this sub-type.

Table 28. Number of Hours Received of Sub-types within Service Types Received by Approximately Half of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by Approximately Half					
Basic Health and Human Services					
Provision of	3.29	1.50	4.56	.25	26.25
Discussion of	.74	.50	.62	.25	2.75

Service hours of sub-types within service types received by fewer than a quarter of the students. Although the Discussion of Behavior was provided at a much higher frequency than Problem Solving or Intervention (20.1% and 4.1% respectively), they were both provided at a similar intensity as evidenced by a shared median of one hour (see Table 29).

Table 29. Number of Hours Received of Sub-types within Service Types Received by Fewer than a Quarter of the Students

	Number of Hours Received				
	Mean	Median	SD	Minimum	Maximum
Services Received by Fewer than a Quarter					
Behavior Intervention/ Modification					
Problem-solving or Intervention	1.56	1.00	1.16	.50	4.50
Discuss Behavior or Anger Management	1.57	1.00	1.34	.25	6.00

Summary of the Amount of Services Received

The total number of hours of services received over the course of the school year ranged from 4.25 to 228.25; however, approximately 82% of the students received between 10-39 hours of services. The number of hours received within each type of service varied greatly. Some of the service types appear to have an inverse relationship between the percentage of students receiving a service type and the total number of hours received. For example, Consultation, Staffing, and Teacher Communication services and Family Engagement services were each provided to approximately 80% of the students; however, students received a median of .50 hours of Consultation, Staffing, and Teacher Communication services and a median of one hour of Family Engagement services. Conversely, approximately 20% of the students received Mentoring services, yet for students who received this, they received a median of five hours.

Further examination of the number of hours received within each sub-type of service revealed a similar finding; however, the very nature of some of the service sub-types lend themselves as a more time intensive activity. For example, among the service sub-types of Family Engagement services, a majority of the students received Mail or Email Communication but only received a median of .50 hours whereas fewer than a quarter of the students received Parent/Family Involvement Activities but received a median of two hours. The difference in the

median number of hours between the two sub-types is not surprising when one considers the amount of time it takes to send a mailing to a parent versus the time to attend a family event.

Service Patterns

The previous sections discussed the two key service volume constructs, number of types of services received and the amount of services received, independently. The following section explores possible patterns of service provision by examining the types of services received for each of the total number of service types received. It then examines the two volume constructs together, the mean number of hours for each of the total number of service types received. The mean number of hours is then disaggregated to examine the mean number of hours for each service type for each of the total number of service types received.

Service Types and Total Number of Service Types Received

Assessment and Orientation is not included in this section since all students received this service type and therefore it is considered a constant. Upon examining the percentage of students who receive each type of service by the total number of service types received, the basic or typical service types that all students received emerged (see Table 30). Beginning with the lowest number of total service types, the students who received a total of three service types received three of the following: Basic Health and Human Services; Goal Setting; Life/Social Skills; Family Engagement; Supportive Counseling; and, Consultation, Staffing, and Teacher Communication. All of the students who received four or more service types also received one or more of the six aforementioned service types. These six service types appear to be a base service set and all of the other services are added to this base.

Table 30. Total Number of Service Types Received by Service Types

Service Types	Total Number of Service Types Received									
	3	4	5	6	7	8	9	10	11	12
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Academic Support	0	8 (42)	17 (47)	24 (37)	46 (70)	69 (88)	59 (81)	49 (92)	22 (100)	11 (100)
Basic Health and Human Services	1 (20)	1 (5)	6 (17)	10 (16)	20 (30)	39 (44)	48 (66)	44 (83)	20 (91)	11 (100)
Behavior Intervention/ Modification	0	2 (10)	4 (11)	4 (6)	10 (15)	17 (19)	18 (25)	16 (30)	13 (59)	11 (100)
Check-in	0	1 (5)	8 (22)	7 (11)	17 (26)	27 (31)	48 (66)	41 (77)	21 (95)	11 (100)
Goal Setting	2 (40)	6 (31)	15 (42)	41 (64)	42 (64)	66 (75)	57 (78)	45 (85)	20 (91)	11 (100)
Life/Social Skills	2 (40)	12 (63)	24 (67)	55 (86)	52 (79)	81 (92)	64 (88)	50 (94)	22 (100)	10 (91)
Mentoring	0	1 (5)	2 (5)	7 (11)	13 (20)	8 (9)	19 (26)	23 (43)	9 (41)	9 (82)
Family Engagement	1 (20)	8 (42)	15 (42)	48 (75)	5 (82)	77 (87)	68 (93)	52 (98)	21 (95)	11 (100)
Supportive Counseling	3 (60)	10 (53)	27 (75)	46 (72)	48 (73)	78 (89)	70 (96)	51 (96)	22 (100)	11 (100)
Consultation, Staffing, and Teacher Communication	1 (20)	5 (26)	11 (30)	45 (70)	48 (73)	80 (91)	70 (96)	51 (96)	20 (91)	11 (100)
Enrichment and Motivation	0	3 (16)	14 (39)	23 (36)	37 (56)	65 (74)	56 77%	49 (92)	22 (100)	11 (100)
Other	0	0	1 (3)	10 (16)	9 (14)	9 (10)	8 (11)	6 (11)	8 (36)	3 (27)

Mean Number of Hours and Total Number of Service Types Received

The mean number of total hours received was examined for each of the total number of service types received. As shown in Table 31, as the number of service types received increases, so does the mean number of hours. This suggests that as students are receiving more types of services, they are also receiving a greater amount of services overall. There appears to be a substantial increase in the mean number of hours received between six and seven total service

types (*M*=19.76, *SD*=9.15 and *M*=29.76, *SD*=28.31, respectively). This is of interest given that a majority of the students received between 6 and 10 service types (see Table 14).

Table 31. Mean Number of Hours Received by Total Number of Service Types

Total Number of Service Types	N	Mean	SD	Minimum	Maximum
3	5	12.90	2.24	10.50	15.50
4	19	18.05	8.85	4.25	46.50
5	36	19.49	7.77	8.00	37.50
6	64	19.76	9.15	5.75	54.75
7	66	29.76	28.31	7.75	228.25
8	88	34.23	19.03	10.00	127.75
9	73	41.66	30.69	14.75	221.50
10	53	46.76	31.05	8.50	184.25
11	22	60.18	34.91	30.25	182.00
12	11	82.61	49.03	27.00	168.00

The mean number of hours for the total number of service types received was further examined by the service types received (see Table 32). Among students who received a total of three service types, Life/Social Skills and Goal Setting were provided at the highest intensity (M=11.25 and M=8.25, respectively). Whereas, the mean number of hours of Supportive Counseling received was less than four (M=3.92). This is particularly interesting given that the percentage of students who received these service types reflects the opposite. A majority of the students received Supportive Counseling (60%) yet only received a mean of 3.92 hours; however, less than half received Life/Social Skills and or Goal Setting services yet received a mean of 11.25 hours.

As previously discussed, as the total number of service types increases the mean number of hours also increases (see Table 31). However, upon examination of the discrete service types, the mean number of hours does not always follow the same increasing trajectory. Several of the

service types, such as Academic Support, Goal Setting, and Life/Social Skills appear to have a curvilinear relationship with the total number of service types received. In other words, they each begin with a high mean number of hours and as the total number of service types increases, the mean number of hours decreases and then increases. The mean number of hours for Check-in and Enrichment and Motivation appear to increase as the total number of service types increase.

Table 32. Mean Number of Hours for the Total Number of Service Types Received by Each Service Type

Service Types	Total Number of Service Types Received									
	3	4	5	6	7	8	9	10	11	12
Academic Support		7.66	2.81	2.58	4.42	5.16	6.44	6.22	7.28	8.57
Basic Health and Human Services	.50	3.50	2.96	2.33	2.68	2.94	2.34	3.38	4.74	4.45
Behavior Intervention/ Modification		2.50	1.50	.94	1.13	1.54	2.03	1.53	1.79	2.68
Check-in		.50	.66	.75	.76	1.27	1.61	1.07	1.19	1.84
Goal Setting	8.25	4.08	5.35	4.03	3.52	4.57	3.07	4.38	9.61	6.00
Life/Social Skills	11.25	9.04	7.48	6.97	6.78	8.06	9.37	9.52	10.31	12.13
Mentoring		8.00	4.50	7.54	16.48	4.00	15.05	6.07	5.83	11.33
Family Engagement	.25	1.59	1.18	.94	1.53	1.32	2.74	2.48	2.73	3.48
Supportive Counseling	3.92	6.60	6.72	5.11	6.83	6.76	6.12	8.01	7.50	10.20
Consultation, Staffing, and Teacher Communication	2.75	.50	1.00	.96	.95	.83	1.43	1.19	1.36	4.16
Enrichment and Motivation		3.83	4.55	3.65	8.84	9.10	8.37	8.50	10.64	17.98
Other			3.00	2.70	4.39	1.56	1.72	1.33	1.94	1.75

Summary of Service Configurations

The results suggest there are six service types that appear to be the base services and all of the other services are added to this base. The base services are: Basic Health and Human Services; Goal Setting; Life/Social Skills; Family Engagement; Supportive Counseling; and,

Consultation, Staffing, and Teacher Communication. As previously discussed, all of these service types were received by a majority of the students with the exception of Basic Health and Human Services (see Table 15). Approximately 46% of the students received Basic Health and Human Services.

The examination of the mean number of total hours received for each of the total number of service types received revealed that as the number of service types received increases, so does the mean number of hours. In other words, as students are receiving more types of services, they are also receiving a greater amount of services. However, further examination of the discrete service types and the mean number of hours does not always follow the same trajectory. Several of the service types appear to have a curvilinear relationship with the total number of service types received.

Conclusion

The findings from this chapter suggest that students receive quite varied types and hours of services. The data from this secondary data analysis indicates that a majority of the students received between six and ten types of services. In addition, there are some service types that are delivered to more students than others. Moving forward in the analysis, the total number of service types received and the total number of hours received will be examined in the place of service configurations. When appropriate, the distinct service types and number of hours of the distinct service types will be examined. Chapter Five continues the results section and discusses the findings from the bivariate and multivariate analyses conducted.

CHAPTER 5

Results - Service Variation and Relation to Outcomes

This chapter provides findings from the analyses conducted to answer the second and third research questions: Do services vary by student characteristics and prior year outcomes?" and, "To what extent do services received to student outcomes by the end of the school year?" This chapter will continue to examine the two key volume constructs: (1) number of types of services received, and (2) amount of services (in hours) received. The first section, *Prescreening Data*, discusses the tools that were employed to screen for potential issues. The second section, *Number of Service Types, Student Characteristics, and Prior Year Outcomes*, examines whether the total number of service types received varies by student characteristics and prior year outcomes. The student characteristics that will be explored are sex, race/ethnicity, grade level, and number of years in the program. The prior year outcomes will be explored in the context of the number of EWIs present as well as the presence of the specific EWIs. The third section, *Number of Hours Received, Student Characteristics, and Prior Year Outcomes*, examines whether the total number of hours received varies by student characteristics and prior year outcomes. This section includes further examination of the number of hours received for each of the distinct service types. The discussion of the service types is guided by the classification that was introduced in Chapter Four: service types received by a majority of the students; service types received by approximately half of the students; and, service types received by fewer than a quarter of the students. This chapter concludes with the results of the multiple regression and

logistic regression analyses. These final multivariate models examine relationships between student characteristics, EWIs, and outcomes from the prior year on the focal year outcomes. Variables are then added to examine whether service receipt during the school year helps to explain the observed variance in subsequent outcomes.

Prescreening Data

Although there is little consensus in the literature about what constitutes excessive missingness (Dattalo, 2013), the pattern of missing data can impact the generalizability of results if the data are not missing at random, and is therefore, a concern (Dattalo, 2009). Missing data were assessed by coding the data as either missing (1) or not missing (0). Bivariate correlation coefficients were calculated to explore whether the missing data were missing at random or missing not at random. Five variables were found to be missing not at random: SY2010-2011 English/Language arts, SY2010-2011 math, SY2010-2011 science, SY2010-2011 social studies, and SY2011-2012 promotion/retention. This was not a surprising finding given that two of the schools did not have any data for the aforementioned variables. None of these variables were missing for more than ten percent of the sample. Missing data for the total number of absences and final grades in ELA, math, science, and social studies of the focal year (SY2011-2012) outcomes were found to be missing at random. Only 4% of the sample (n=18) were missing one or more of these outcomes. There were no missing data for the student characteristic variables (i.e. sex, race, grade level, number of years in the program).

One way to handle data that are missing not at random is imputation. There are several methods for imputing missing data: using prior knowledge, inserting mean values, and multiple imputation (Tabachnick & Fidell, 2007). Another way to handle data that are missing not at random is listwise deletion. Given that this secondary data analysis is exploratory in nature, the

researcher did not feel as though there was enough prior knowledge of the data to justify imputation. Therefore, all analyses were run with all existing data. For number of EWIs, available data were used to construct the indicator. Given that EWI data were the only data that were missing not at random, analyses were run with all other variables as they appeared in the data set (i.e. no imputation was conducted). Listwise deletion was specified in all analyses.

Outliers can present a problem with certain statistical tests. OLS regression is one such test that is sensitive to outliers. If outliers are present in OLS regression, they can overstate the coefficient of determination (R^2) as well as "give erroneous values for the slope and intercept" (Dattalo, 2013, p. 17). The use of Cook's distance, *D,* is one particular method pre-screen for outliers. *Cook's D* allows the researcher to assess the impact of a data point on the estimated regression coefficient. Cook's D was calculated for each of the SY2011-2012 outcome variables (Final grades in core subjects, total number of absences, total number of discipline referrals, and promotion). One outlier was discovered during the course of this procedure. Dattalo (2013) recommends three possible approaches to working with outliers: transformation of the data, deletion of outliers, reporting model results with and without outliers, and use of methods that are robust in the presence of outliers. The bivariate analyses were initially run with the outlier, and it presented a significant impact on the results. The particular case received 228 hours of services and was the only case that had six EWIs (the rest of the sample had between zero and five EWIs). Therefore, given the influence this case was having on several variables the case was deleted.

Multicollinearity exists when variables are highly correlated. Variables that are multicollinear contain redundant information and can weaken an analysis by inflating the size of the error terms if included (Tabachnick & Fidell, 2007). One commonly used approach to

identify multicollinearity is to inspect the bivariate correlations among the independent variables (Dattalo, 2013). Not surprisingly, the intercorrelations among the prior year outcomes ranged from a low correlation (r=.115 between SY2010-2011 ELA and SY2010-2011 Promotion) to highly correlated (r=.518 SY2010-2011 Science and SY2010-2011 Social Studies) (see Appendix F for correlation tables). This issue will be further addressed in the multiple regression analyses. The correlation between Total number of service types received and Total number of hours received was also found to be high (r=.500). Therefore, each of these variables will be examined separately in the regression analyses to prevent misinterpreting the relative strength of these variables in predicting the dependent variables. Further inspection of the intercorrelations among student characteristics, number of EWIs and specific EWIs, did not yield any concerns.

Number of Service Types, Student Characteristics, and Prior Year Outcomes

The following section discusses the univariate and bivariate analyses that were conducted to examine the extent to which student characteristics and prior year outcomes were related to variation in the total number of service types received from CIS during the focal year. The student characteristics utilized in the analyses are sex, race/ethnicity, grade level, and number of years in the program. Given the distribution of number of years in the program (see Figure 4 in Chapter 4) was collapsed into three categories based upon the quartiles ($^1/_2$ year, 1 year, 2 years and greater). The prior year outcomes are explored in the context of the total number of EWIs present as well as the presence of a specific EWI. As discussed in Chapter Two, the early warning literature suggests that the risk of dropping out of school is associated with not only the number of EWIs, but also the specific EWIs that are present. The specific EWIs captured are failing a core subject area (English/Language arts, math, science, or social studies), retained at the end of the 2010-2011 school year (the prior year), excessive number of absences, and

excessive number of discipline referrals. Each of these EWIs were coded as 1 (EWI present) or 0 (EWI not present).

When several independent statistical tests are being performed simultaneously on a single data set, as is the case in this study, it is recommended to perform a Bonferroni correction. The Bonferroni correction is used to reduce the chances of type I errors (false-positives) when multiple pair wise tests are performed on a single set of data. However, the Bonferroni correction can also become increasingly conservative as the number of tests increases thereby increasing the risk for type II errors (false negatives) (Armstrong, 2014). Given the exploratory nature of this study, the researcher elected not to use a Bonferroni correction.

Number of Service Types and Student Characteristics

The differences in the total number of service types received by each of the student characteristics were examined in two ways: (1) Chi-square analyses to examine the relationship between the total number of service types and student characteristics; and, (2) bivariate analyses to examine the mean differences between groups. Upon examining the crosstab in Table 33, the total number of service types received does not appear to be based upon sex, race, grade level, or number of years in the program. In order to conduct the chi-square analyses, the total number of service types was collapsed into three categories (3-5 service types, 6-8 service types, and 9-12 service types) in order to ensure there were no empty cells. The analyses revealed there was no statistically significant relationship between the total number of service types received and sex (X^2(2, n=436) = 3.205, p = 0.201), race/ethnicity (X^2(8, n=436) = 9.232, p = 0.323), grade level (X^2(4, n=436)= 3.325, p = 0.505), or number of years in the program (X^2(4, n=436)= 4.585, p = 0.333).

Table 33. Total Number of Service Types Received by Student Characteristics

	Total Number of Service Types Received										
	3	4	5	6	7	8	9	10	11	12	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Sex											
Female	3 (1.3)	15 (6.3)	21 (8.8)	40 (16.7)	28 (11.7)	50 (20.9)	38 (15.9)	28 (11.7)	9 (3.8)	7 (2.9)	239 (100)
Male	2 (1.0)	4 (2.0)	15 (7.6)	24 (12.2)	37 (18.8)	38 (19.3)	35 (17.8)	25 (12.7)	13 (6.6)	4 (2.0)	197 (100)
Race/Ethnicity											
Hispanic	3 (1.4)	6 (2.8)	16 (7.4)	39 (18.1)	30 (14.0)	42 (19.5)	39 (18.1)	27 (12.6)	7 (3.3)	6 (2.8)	260 (100)
American Indian and Hispanic	2 (2.2)	6 (6.6)	12 (13.2)	14 (15.4)	13 (14.3)	13 (14.3)	16 (17.6)	9 (9.9)	4 (4.4)	2 (2.2)	91 (100)
African American	0	3 (4.1)	6 (8.2)	4 (5.5)	9 (12.3)	23 (31.5)	11 (15.1)	10 (13.7)	4 (5.5)	3 (4.1)	73 (100)
White	0	3 (6.5)	2 (4.3)	3 (6.5)	11 (23.9)	8 (17.4)	6 (13.0)	7 (15.2)	6 (13.0)	0	46 (100)
Other	0	1 (9.1)	0	4 (36.4)	2 (18.2)	2 (18.2)	1 (9.1)	0	1 (9.1)	0	11 (100)
Grade Level (SY2011-2012)											
6th	0	0	1 (7.1)	1 (7.1)	5 (35.7)	3 (21.4)	2 (14.3)	2 (14.3)	0	0	14 (100)
7th	5 (2.2)	9 (4.0)	22 (9.7)	36 (15.9)	28 (12.4)	48 (21.2)	36 (15.9)	22 (9.7)	15 (6.6)	5 (2.2)	226 (100)
8th	0	10 (5.1)	13 (6.6)	27 (13.8)	32 (16.3)	37 (18.9)	35 (17.9)	29 (14.8)	7 (3.6)	6 (3.1)	196 (100)
Number of Years in the Program											
½	2 (1.3)	7 (4.4)	12 (7.8)	19 (12.3)	17 (11.0)	31 (20.1)	35 (22.7)	19 (12.3)	8 (5.2)	4 (2.6)	156 (100)
1	1 (0.8)	5 (3.9)	11 (8.7)	21 (16.5)	18 (14.2)	29 (22.8)	18 (14.2)	16 (12.6)	5 (3.9)	3 (2.4)	127 (100)
2 or more years	2 (1.3)	7 (4.5)	13 (8.4)	24 (15.5)	30 (19.4)	28 (18.1)	20 (12.9)	18 (11.6)	9 (5.8)	4 (2.6)	153 (100)

Table 34 provides the mean number of service types received for each of the student characteristics. Bivariate analyses further revealed no statistically significant differences in the mean number of services types and student characteristics. An independent samples t-test showed no statistically significant difference in the mean number of service types received between males and females ($t(428) = 1.72$, $p = .086$). A series of one-way ANOVAs showed no

statistically significant difference in the mean number of service types received based on race/ethnicity ($F(4, 431) = 2.04$, $p = .088$), grade level ($F(2, 433) = .679$, $p = .508$), or number of years in the program ($F(2, 433) = .745$, $p = .475$).

Table 34. Mean Number of Service Types Received by Student Characteristics

Student Characteristics	Total Number of Service Types Received			
	Mean	SD	Min	Max
Sex				
Female	7.59	2.04	3	12
Male	7.92	2.04	3	12
Race/Ethnicity				
Hispanic	7.73	1.92	3	12
American Indian and Hispanic	7.37	2.13	3	12
African American	8.11	1.90	4	12
White	8.07	1.98	4	11
Other	7.09	1.87	4	11
Grade Level (SY2011-2012)				
6th	7.71	1.44	5	10
7th	7.64	2.05	3	12
8th	7.86	1.93	4	12
Number of Years in the Program				
½ a year	7.90	1.99	3	12
1 year	7.68	1.93	3	12
2 or more years	7.64	2.01	3	12

Number of Service Types and Prior Year Outcomes

The differences in the total number of service types received by the total number of EWIs present as well as the presence of a specific EWI were also examined in the same fashion: (1) Chi-square analyses to examine the relationship between the total number of service types and EWIs; and, (2) bivariate analyses to examine the mean differences between groups. In order to conduct the chi-square analyses, the total number of service types was collapsed into three categories (3-5 service types, 6-8 service types, and 9-12 service types) and the number of EWIs was collapsed into three categories (0, 1, and 2 or more EWIs) in order to ensure there were no empty cells. Upon examining the crosstab in Table 35, there does appear to be some variation for

the total number of service types and the number of EWIs. However, a chi-square analysis showed no statistically significant relationship between the total number of service types received and the number of EWIs (X^2(4, n=436) = 4.940, p = 0.294). Furthermore, chi-square analyses showed no statistically significant relationship between the total number of service types received and the presence of an EWI in English/Language Arts (X^2(2, n=436) = 4.487, p = 0.106), math (X^2(2, n=436) = 3.898, p = 0.142), science (X^2(2, n=436) = 1.041, p = 0.594), social studies (X^2(2, n=436) = 2.071, p = 0.355), retention (X^2(2, n=436) = .820, p = 0.664), attendance (X^2(2, n=436) = .888, p = 0.641), or discipline referrals (X^2(2, n=436) = 4.543, p = 0.103).

Table 35. Total Number of Service Types Received by Prior Year Outcomes

	Total Number of Service Types Received										
	3	4	5	6	7	8	9	10	11	12	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Number of EWIs											
0	4 (1.3)	14 (4.4)	27 (8.5)	48 (15.1)	45 (14.2)	67 (20.1)	50 (15.8)	37 (11.7)	17 (5.4)	8 (2.5)	317 (100)
1	1 (1.3)	4 (5.3)	6 (7.9)	10 (13.2)	10 (13.2)	11 (14.5)	18 (23.7)	9 (11.8)	5 (6.6)	2 (2.6)	76 (100)
2	0	1 (5.3)	2 (10.5)	4 (21.1)	3 (15.8)	6 (31.6)	2 (10.5)	1 (5.3)	0	0	19 (100)
3	0	0	0	1 (9.1)	3 (27.3)	3 (27.3)	1 (9.1)	2 (27.3)	0	1 (9.1)	11 (100)
4	0	0	0	1 (12.5)	2 (2.05)	1 (12.5)	1 (12.5)	3 (37.5)	0	0	8 (100)
5	0	0	1 (20.0)	0	2 (40.0)	0	1 (20.0)	1 (20.0)	0	0	5 (100)
EWI in Core Subject Area[1]											
ELA	0	0	2 (5.3)	4 (10.5)	10 (26.3)	3 (7.9)	10 (26.3)	7 (18.4)	0	2 (5.3)	38 (100)
Math	0	1 (2.0)	4 (7.8)	7 (13.7)	13 (25.5)	12 (23.5)	6 (11.8)	6 (11.8)	2 (3.9)	0	51 (100)
Science	0	1 (3.7)	1 (3.7)	3 (11.1)	7 (25.9)	5 (18.5)	3 (11.1)	6 (22.2)	0	1 (3.7)	27 (100)
Social Studies	1 (4.8)	0	0	3 (14.3)	3 (14.3)	4 (19.0)	3 (14.3)	6 (28.6)	0	1 (4.8)	21 (100)
Retained	0	0	0	1 (20.0)	1 (20.0)	1 (20.0)	0	1 (20.0)	1 (20.0)	0	5 (100)
Attendance EWI	0	1 (6.7)	2 (13.3)	3 (20.0)	1 (6.7)	4 (26.7)	2 (13.3)	2 (13.3)	0	0	15 (100)
Discipline EWI	0	3 (4.8)	6 (9.5)	5 (7.9)	10 (15.9)	9 (14.3)	13 (20.6)	12 (19.0)	4 (6.3)	1 (1.6)	63 (100)

[1]Frequency and percentage is provided only for those students who have a specific EWI

The mean number of service types received was examined for the number of EWIs and each specific EWI (see Table 36). A mean comparison of the total number of service types received based on the number of EWIs showed no significant difference between the groups ($F(5,430) = .853$, $p = .512$). A series of independent samples t-tests also showed no statistically significant difference in the mean number of service types received based on the presence or absence of each of the specific EWIs.

Table 36. Mean Number of Service Types Received by Prior Year Outcomes

	Total Number of Service Types Received			
	Mean	SD	Min	Max
Number of EWIs				
0	7.71	1.99	3	12
1	7.87	2.07	3	12
2	7.11	1.56	4	10
3	8.36	1.75	6	12
4	8.38	1.60	6	10
5	7.60	1.95	5	10
EWI in Core Subject Area[1]				
ELA	8.21	1.74	5	12
Math	7.63	1.64	4	11
Science	7.96	1.83	4	12
Social Studies	8.24	2.02	3	12
Retained	8.40	2.07	6	11
Attendance EWI	7.27	1.87	4	10
Discipline EWI	8.05	1.99	4	12

[1]Mean is provided only for those students who have a specific EWI

Summary of Number of Service Types, Student Characteristics, and Prior Year Outcomes

Overall, the number of service types received did not appear to be significantly related to student characteristics or prior year outcomes. Moreover, mean comparisons of the number of service types based on student characteristics and prior year outcomes revealed no significant differences between the groups.

Number of Hours Received, Student Characteristics, and Prior Year Outcomes

The following section discusses the bivariate analyses that were conducted to examine the extent to which student characteristics and prior year outcomes were related to variation in the total number of hours received from CIS during the focal year. As discussed in the previous section, the student characteristics utilized in the analyses are gender, race/ethnicity, grade level, and number of years in the program. The prior year outcomes are explored in the context of the total number of EWIs present as well as the presence of a specific EWI.

Number of Hours of Services Received and Student Characteristics

Table 37 provides an overview of the mean number of hours received by each student characteristic. An independent samples t-test measuring the difference in the mean number of hours received between males and females showed no statistically significant difference ($t(414) = .164$, $p = .870$). Furthermore, a series of one-way ANOVAs also showed no statistically significant difference in the mean number of hours received based on race/ethnicity ($F(4,431) = .919$, $p = .453$), grade level ($F(2,433) = .369$, $p = .692$), or number of years in the program ($F(2,433) = 2.318$, $p = .100$).

Table 37. Mean Number of Hours Received and Student Characteristics

Student Characteristics	Total Number of Hours Received			
	Mean	SD	Min	Max
Sex				
Female	33.93	26.18	4.25	184.25
Male	35.35	26.90	6.25	221.50
Race/Ethnicity				
Hispanic	34.47	26.01	5.75	168.00
American Indian and Hispanic	36.88	35.71	4.25	221.50
African American	34.10	21.24	10.00	127.75
White	28.43	14.25	8.50	84.00
Other	28.32	11.38	13.75	48.00
Grade Level (SY2011-2012)				
6th	35.21	20.92	16.75	84.75
7th	33.07	23.04	4.25	168.00
8th	35.25	30.33	6.25	221.50
Number of Years in the Program				
½ a year	37.77	29.90	5.75	221.50
1 year	31.64	21.74	7.75	168.00
2 or more years	32.52	26.17	4.25	184.25

Number of Hours of Services Received and Prior Year Outcomes

Table 38 provides an overview of the mean number of hours received for the number of EWIs and each specific EWI. A mean comparison of the total number of hours received based on the number of EWIs showed no significant difference between the groups ($F(5,430) = .910$, $p =$

.474). However, an independent samples t-test suggested that there is a significant difference based on whether a student has an EWI in science or not ($t(38) = 2.991$, $p = .005$). Students who had an EWI in science received a lower mean of hours of services (M=25.15, SD=15.10) than students who *did not* have an EWI in science (M=34.71, SD=26.97). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, math, social studies, retention, attendance, and discipline referrals) did not reveal a statistical significance.

Table 38. Mean Number of Hours Received and Prior Year Outcomes

	Total Number of Hours Received			
	Mean	SD	Min	Max
Number of EWIs				
0	34.92	27.51	5.75	221.50
1	34.66	26.11	4.25	182.00
2	25.83	18.59	8.00	85.50
3	33.52	15.69	7.75	60.00
4	20.06	8.11	8.50	31.75
5	30.25	24.58	15.50	74.00
EWI in Core Subject Area[1]				
ELA	31.21	16.58	7.75	74.00
Math	33.75	27.53	8.00	182.00
Science	**25.15****	15.10	4.25	74.00
Social Studies	35.63	26.78	12.25	122.00
Retained	33.95	24.41	10.50	72.00
Attendance EWI	28.17	23.17	7.75	85.50
Discipline EWI	31.26	28.88	7.75	221.50

[1]Mean is provided only for those students who have a specific EWI
*p<.05
**p<.01

Summary of Number of Hours Received, Student Characteristics, and Prior Year Outcomes

Overall, mean comparisons of the total number of hours received based on student characteristics revealed no significant differences between the groups. Mean comparisons of the total number of hours received based on prior year outcomes revealed one notable finding.

Students who had an EWI in science received a lower mean of hours of services than students who *did not* have an EWI in science. Further examination of the differences in the mean number of hours received based on the total number of EWIs and the other specific EWIs (ELA, math, social studies, retention, attendance, and discipline referrals) did not reveal a statistical significance.

Number of Hours of Services Received by Service Type and Student Characteristics

The mean number of hours received was further explored by examining the mean number of hours for each type of service based upon each student characteristic. The service types are discussed utilizing the grouping system that was employed in Chapter Four: service types received by a majority of the students; service types received by approximately half of the students; and, service types received by fewer than a quarter of the students. The first section will examine the mean number of hours for each type of service for the various student characteristics, beginning with the service types that were received by a majority of the students.

Mean number of service hours within service types received by a majority of the students and student characteristics. There are eight service types that were previously classified as service types received by a majority of the students: Enrichment and Motivation, Academic Support, Goal Setting, Life/ Social Skills, Family Engagement, Supportive Counseling, Consultation, Staffing, and Teacher Communication, and Assessment and Orientation services will be discussed in turn. Table 39 provides an overview of the mean number of hours received for each of the aforementioned service types by student characteristics.

Bivariate analyses revealed no statistically significant differences in the mean number of Enrichment and Motivation hours received based upon sex, race/ethnicity, and grade level. An ANOVA test suggested there was a significant difference based on the number of years in the

program ($F(2, 433) = 3.261$, $p = .039$). A Tukey HSD indicated that the mean number of hours of Enrichment and Motivation services received was significantly higher for students who were in the program for a half a year (M=6.90, SD=13.18) than for students who were in the program for two or more years (M=6.90, SD=13.18).

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Academic Support services received based upon student characteristics. Bivariate analyses also revealed no statistically significant differences in the mean number of hours of Goal Setting services received based upon sex and race/ethnicity. A mean comparison of the number of hours of Goal Setting services received based on grade level showed a significant difference between the groups ($F(2, 433) = 3.765$, $p = .024$). A Tukey HSD indicated that the mean number of hours received was significantly higher for students who were in the eighth grade (M=4.16, SD=9.90) than for students who were in the seventh grade (M=2.25, SD=3.40). An ANOVA test also suggested there was a significant difference based on the number of years in the program ($F(2, 433) = 3.854$, $p = .022$). Post hoc analysis indicated that the mean number of hours of Goal Setting services received was significantly higher for students who were in the program for two or more years (M=4.38, SD=10.03) than for students who were in the program for a half a year (M=2.37, SD=4.34).

An independent samples t-test measuring the difference in the mean number of hours of Life/Social Skills services received between males and females showed a statistically significant difference ($t(434) = -5.269$, $p < .000$). Female students received a significantly higher mean number of hours of Life/Social Skills services than their male peers (M=8.77, SD=7.99 and M=5.22, SD=5.56 respectively). A series of one-way ANOVAs showed no statistically significant difference in the mean number of hours of Life/Social Skills services based on

race/ethnicity ($F(4, 431) = 1.486$, $p = .205$), grade level ($F(2, 433) = 1.967$, $p = .141$), and number of years in the program ($F(2, 433) = 1.028$, $p = .359$).

Mean comparisons of the number of hours of Family Engagement services based on sex, race/ethnicity, and grade level did not show a statistically significant difference. However, there was a statistically significant difference based on the number of years in the program ($F(2, 433) = 30.350$, $p < .000$). A Tukey HSD indicated that the mean number of hours of Family Engagement services received was significantly higher for students who were in the program for a half a year (M=2.64, SD=3.31) than for students who were in the program for one year (M=.88, SD=1.26) or two years (M=.98, SD=1.11).

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Supportive Counseling services received based upon student characteristics. The analyses also revealed no statistically significant differences in the mean number of hours of Consultation, Staffing, and Teacher Communication services received based upon sex, race/ethnicity, and grade level. However, a one-way ANOVA test suggested there was a statistically significant difference based on the number of years in the program ($F(2, 433) = 4.594$, $p = .011$). A Tukey HSD indicated that the mean number of hours of Consultation, Staffing, and Teacher Communication services received was significantly higher for students who were in the program for a half a year (M=1.16, SD=1.92) than for students who were in the program for two years (M=.68, SD=.92).

Mean comparisons of the number of hours of Assessment and Orientation services based on sex and number of years in the program did not show a statistically significant difference. However, there was a statistically significant difference based on race/ethnicity ($F(4, 431) = 2.413$, $p = .048$). A Tukey HSD indicated that the mean number of hours of Assessment and

Orientation services received was significantly higher for Hispanic students (M=2.32, SD=.56) than for students who identify as American Indian and Hispanic (M=2.13, SD=.41). The mean for the other groups did not differ significantly. There was also a statistically significant difference based on grade level ($F(2, 433) = 4.807$, $p = .009$). Post hoc analyses indicated the mean number of hours received was significantly higher for 8th grade students (M=2.34, SD=.56) than for 7th grade students (M=2.19, SD=.43).

Table 39. Mean Number of Service Hours within Service Types Received by a Majority of the Students and Student Characteristics

	Enrichment and Motivation				Academic Support				Goal Setting				Life/ Social Skills			
Student Characteristics	*M*	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max
Sex																
Female	5.26	11.50	0	69.25	3.31	5.83	0	38.25	2.70	6.06	0	58.50	**8.77****	7.99	0	44.75
Male	5.78	11.11	0	71.00	4.29	6.06	0	40.50	3.63	6.06	0	69.75	**5.22****	5.56	0	35.50
Race/Ethnicity																
Hispanic	5.97	13.26	0	71.00	3.72	5.38	0	28.25	2.49	4.70	0	34.00	7.89	7.67	0	41.75
American Indian and Hispanic	5.57	10.59	0	52.25	3.80	7.18	0	40.50	4.59	10.94	0	69.75	6.39	7.39	0	44.75
African American	5.56	9.30	0	60.50	4.41	6.57	0	26.75	4.21	8.91	0	66.75	6.46	5.68	0	23.50
White	2.91	4.59	0	27.00	4.52	9.37	0	30.50	1.61	2.76	0	17.00	7.15	7.33	0	36.50
Other	5.80	6.24	0	18.00	4.52	9.37	0	30.50	2.43	4.52	0	15.00	4.07	2.92	0	10.00
Grade Level (SY2011-2012)																
6th	10.11	16.60	0	41.50	2.00	3.34	0	12.00	2.55	3.56	0	10.25	7.02	6.31	0	22.00
7th	5.98	11.90	0	71	3.34	5.42	0	31.50	**2.25***	3.40	0	17.00	6.52	6.74	0	36.50
8th	4.60	10.05	0	69.25	4.36	6.63	0	40.50	**4.16***	9.90	0	69.75	7.91	7.74	0	44.75
Number of Years in the Program																
½ a year	**6.90***	13.18	0	69.25	3.40	5.37	0	30.50	**2.37***	4.34	0	24.00	7.63	7.69	0	41.75
1 year	5.96	12.01	0	71	3.40	5.45	0	31.50	2.50	5.26	0	34.00	6.42	6.58	0	36.50
2 or more years	**3.71***	8.10	0	60.25	4.40	6.86	0	40.50	**4.38***	10.03	0	69.75	7.30	7.21	0	44.75

	Family Engagement				Supportive Counseling				Consultation, Staffing, and Teacher Communication				Assessment and Orientation			
Student Characteristics	*M*	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max
Sex																
Female	1.38	2.02	0	14.00	5.82	5.73	0	28.00	.81	1.10	0	6.75	2.27	.50	1.00	5.00
Male	1.72	2.65	0	17.50	5.31	6.17	0	52.00	1.02	1.71	0	15.00	2.24	.48	1.00	4.25
Race/Ethnicity																
Hispanic	1.70	2.66	0	17.50	5.69	5.78	0	28.00	.92	1.17	0	6.75	**2.32***	.56	1.00	5.00
American Indian and Hispanic	1.31	1.91	0	12.75	6.08	7.47	0	52.00	1.02	2.23	0	15.00	**2.13***	.41	1.00	3.50
African American	1.65	2.19	0	10.00	4.42	3.95	0	18.00	.87	1.13	0	6.25	2.26	.44	2.00	3.75
White	.98	1.21	0	6.25	6.36	5.98	0	18.00	.72	.74	0	3.00	2.22	.38	1.25	3.00
Other	1.73	2.70	0	9.00	4.23	4.80	0	15.00	.64	.73	0	2.00	2.23	.45	1.75	3.00
Grade Level (SY2011-2012)																
6th	.95	1.17	0	3.75	4.43	4.58	0	14.00	.50	.66	0	2.50	2.25	.31	2.00	3.00
7th	1.47	2.30	0	17.50	6.14	5.81	0	28.00	.86	1.47	0	15.00	**2.19***	.43	1.00	5.00
8th	1.65	2.41	0	14.00	5.04	6.12	0	52.00	.99	1.38	0	11.50	**2.34***	.56	1.00	4.25
Number of Years in the Program																
½ a year	**2.64***	3.31	0	17.50	6.21	6.98	0	52.00	**1.16***	1.92	0	15.00	2.19	.40	1.75	5.00
1 year	**.88***	1.26	0	7.50	5.57	5.60	0	20.25	.87	1.10	0	6.75	2.29	.52	1.00	4.25
2 or more years	**.98***	1.11	0	5.25	4.99	4.96	0	22.75	**.68***	.92	0	5.50	2.30	.56	1.00	4.25

*p<.05
**p<.01

Mean number of service hours within service types received by approximately half of the students and student characteristics. There are two service types that were previously classified as service types received by approximately half of the students: Basic Health and Human Services and Check-in. Table 40 provides an overview of the mean number of hours of Basic Health and Human Services and Check-in services received by student characteristics.

Table 40. Mean Number of Service Hours within Service Types Received by Approximately Half of the Students and Student Characteristics

	Basic Health and Human Services				Check-in			
	M	SD	Min	Max	*M*	SD	Min	Max
Sex								
Female	1.25	3.26	0	26.25	.58	1.24	0	8.75
Male	1.61	3.37	0	25.25	.44	.94	0	7.75
Race/Ethnicity								
Hispanic	1.21	2.83	0	22.50	.53	1.31	0	8.75
American Indian and Hispanic	1.78	4.54	0	26.25	.48	.86	0	5.25
African American	1.78	3.48	0	18.75	.59	.89	0	4.00
White	1.14	2.44	0	10.25	.43	.90	0	4.75
Other	1.20	2.08	0	5.00	.45	.90	0	2.50
Grade Level (SY2011-2012)								
6th	.54	.86	0	2.75	.07	.15	0	.50
7th	1.28	2.97	0	22.50	.50	1.12	0	8.50
8th	1.64	3.77	0	26.25	.56	1.13	0	8.75
Number of Years in the Program								
½ a year	1.48	3.56	0	22.50	**.80***	1.57	0	8.75
1 year	1.30	2.69	0	20.25	**.40***	.84	0	6.25
2 or more years	1.45	3.54	0	26.25	**.33***	.58	0	2.50

*p<.05

Bivariate analyses revealed no statistically significant differences in the mean number of Basic Health and Human Services hours received based upon sex ($t(412) = 1.139$, $p = .256$), race/ethnicity ($F(4, 431) = .785$, $p = .535$), grade level ($F(2, 433) = 1.146$, $p = .319$), or number of years in the program ($F(2, 433) = .108$, $p = .898$).

Mean comparisons of the number of hours of Check-in services based on sex, race/ethnicity, and grade level did not show a statistically significant difference. However, there

was a statistically significant difference based on the number of years in the program ($F(2, 433) = 8.397$, $p < .000$). A Tukey HSD indicated that the mean number of hours of Check-in services received was significantly higher for students who were in the program for a half a year (M=.80, SD=1.57) than for students who were in the program for one year (M=.40, SD=.84) or two years (M=.33, SD=.58).

Mean number of service hours within service types received by fewer than a quarter of the students and student characteristics. There are three service types that were previously classified as service types received by fewer than a quarter of the students: Behavior Intervention/ Modification, Mentoring, and Other service types. Table 41 provides an overview of the mean number of hours of the aforementioned service types by student characteristics.

An independent samples t-test measuring the difference in the mean number of hours of Behavior Intervention/ Modification services received between males and females showed a statistically significant difference ($t(435) = -1.995$, $p = .047$). Male students received a significantly higher mean number of hours of Behavior Intervention/ Modification services than their female peers (M=.49, SD=1.08 and M=.29, SD=1.00 respectively). A series of one-way ANOVAs showed no statistically significant difference in the mean number of hours based on race/ethnicity ($F(4, 431) = 1.418$, $p = .227$), grade level ($F(2, 433) = .461$, $p = .631$), and number of years in the program ($F(2, 433) = .071$, $p = .932$).

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Mentoring services received based upon student characteristics. Bivariate analyses also revealed no statistically significant differences in the mean number of hours of Other services received based upon sex, race/ethnicity, and grade level. A mean comparison of the number of hours of Other services received based on the number of years in the program showed a

significant difference between the groups ($F(2, 433) = 4.091$, $p = .017$). A Tukey HSD indicated that the mean number of hours of Other services received was significantly higher for students who were in the program for one year (*M*=.46, *SD*=1.30) than for students who were in the program for a half a year (*M*=.11, *SD*=.72) or two years (*M*=.33, *SD*=.58).

Table 41. Mean Number of Service Hours within Service Types Received by Fewer than a Quarter of the Students and Student Characteristics

	Behavior Intervention/ Modification				Mentoring				Other			
	M	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max
Gender												
Female	**.29***	1.00	0	10	1.28	5.02	0	59.00	.21	.89	0	8.50
Male	**.49***	1.08	0	5.75	2.98	14.68	0	128	.39	1.22	0	7.00
Race/Ethnicity												
Hispanic	.49	1.31	0	10.00	1.26	3.47	0	20	.28	1.03	0	8.50
American Indian and Hispanic	.29	.69	0	3.50	3.18	14.84	0	128	.26	.92	0	5.50
African American	.31	.79	0	4.00	1.27	3.49	0	16.00	.29	1.19	0	7.00
White	.23	.49	0	2.00	1.69	4.28	0	20.00	.39	1.19	0	7.00
Other	.02	.08	0	.25	.64	1.27	0	4.00	.36	1.21	0	4.00
Grade Level (SY2011-2012)												
6th	.21	.46	0	1.50	4.52	5.92	0	16.00	.07	.27	0	1.00
7th	.42	1.14	0	10.00	1.82	5.42	0	59.00	.30	1.21	0	8.50
8th	.34	.95	0	5.75	1.35	9.38	0	128	.29	.88	0	6.00
Number of Years in the Program												
½ a year	.39	1.21	0	10.00	2.49	10.92	0	128	**.11***	.72	0	8.50
1 year	.40	.98	0	6.00	1.17	3.30	0	20.00	**.46***	1.30	0	7.00
2 or more years	.36	.91	0	5.75	1.33	5.46	0	59.00	.32	1.09	0	7.00

*p<.05

Summary of Number of Hours Received by Service Type and Student Characteristics

Overall, mean comparisons of the total number of hours received for the distinct service types based on student characteristics did not reveal significant differences between most of the groups. There were significant differences between the mean number of hours males and females received of Life/Social Skills and Behavior Intervention/Modification services. The only significant differences between race/ethnicity groups were the mean number of hours of

Assessment and Orientation services between Hispanic students and American Indian and Hispanic students. There were significant differences found between the mean number of hours 7th and 8th grade students received Goal Setting and Assessment and Orientation services, but not between 6th grade students and the other groups. Mean comparisons based on the number of years in the program did reveal significant findings for several of the distinct service types. For four of the distinct service types, Enrichment and Motivation, Family Engagement, Consultation, and Check-in services, students who were in the program for a half a year received significantly more hours of services than students who were in the program for one or two years.

Number of Hours of Services Received by Service Type and Prior Year Outcomes

The mean number of hours received was further explored by examining the relationship between prior year outcomes and the mean number of hours for each type of service during the focal year. The prior year outcomes will be explored in the context of the number of EWIs present as well as the presence of the specific EWIs. In the following tables, the mean number of hours is provided for students who had a specific EWI, but not for those who did not have a specific EWI. However, the analyses are comparing the mean differences between those who had each specific EWI to those who did. This section will continue to utilize the grouping system that was employed in Chapter Four to discuss the service types: service types received by a majority of the students; service types received by approximately half of the students; and, service types received by fewer than a quarter of the students. The first section will examine the mean number of hours for each type of service for the number of EWIs present and the presence of the specific EWIs, beginning with the service types that were received by a majority of the students.

Mean number of service hours within service types received by a majority of the students and prior year outcomes. There are eight service types that were previously classified

as service types received by a majority of the students: Enrichment and Motivation, Academic Support, Goal Setting, Consultation, Staffing, and Teacher Communication, Family Engagement, Supportive Counseling, Life/Social Skills, and Assessment and Orientation services. Each will be discussed in turn. Table 42 provides an overview of the mean number of hours received for each of the aforementioned service types by the number of EWIs present and the presence of the specific EWIs.

Bivariate analyses revealed no statistically significant differences in the mean number of Enrichment and Motivation hours received based upon the number of EWIs present and the presence of the specific EWIs. A mean comparison of the number of hours of Academic Support services received based on the number of EWIs showed a significant difference between the groups ($F(5, 430) = 2.739$, $p = .019$). A Tukey HSD indicated that the mean number of hours of Academic Support services received was significantly higher for students who had one EWI (M=5.77, SD=7.60) than for students who had zero EWIs (M=3.17, SD=5.42). A t-test measuring differences in the mean number of hours of Academic Support services for students who had an EWI in math as opposed to those who did not showed a statistically significant difference ($t(434) = -2.091$, $p = .037$). Students who had an EWI in math received significantly more hours of Academic Support services (M=5.39, SD=8.20) than students who *did not* have an EWI in math (M=3.54, SD=5.59). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, science, social studies, retention, attendance, and discipline referrals) did not reveal a statistical significance.

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Goal Setting services received based upon the number of EWIs ($F(5, 430) = .936$, $p = .458$). In addition, the analyses revealed no significant differences in the mean number of hours

based upon the presence of an EWI in ELA, science, social studies, retention, attendance, and discipline referrals. A t-test measuring differences in the mean number of hours of Goal Setting services for students who had an EWI in math as opposed to those who did not showed a statistically significant difference ($t(434) = -2.050$, $p = .041$). Students who had an EWI in math received significantly more hours of Goal Setting services (M=5.04, SD=14.03) than students who *did not* have an EWI in math (M=2.87, SD=5.63).

Bivariate analyses revealed no statistically significant differences in the mean number of Consultation, Staffing, and Teacher Communication hours received based upon the number of EWIs present and the presence of the specific EWIs. There were also no statistically significant differences in the mean number of Family Engagement hours received based upon the number of EWIs present and the presence of the specific EWIs. Bivariate analyses revealed no statistically significant differences in the mean number of Supportive Counseling hours received based upon the number of EWIs present. A series of independent samples t-tests measuring the differences in the mean number of Supportive Counseling hours received based upon the presence of a specific EWI revealed one notable finding. Students who had an EWI in ELA received significantly fewer hours of Supportive Counseling services (M=3.81, SD=3.04) than their peers who did not have an EWI in ELA (M=5.76, SD=6.11), $t(434) = 1.945$, $p = .050$. The mean number of hours received based on the other specific EWIs (math, science, social studies, retention, attendance, and discipline referrals) did not reveal a statistical significance.

Mean comparisons of the number of hours of Life/Social Skills services based on the number of EWIs did not show a statistically significant difference. However, a series of independent samples t-tests showed a statistically significant difference in the mean number of hours of Life/Social Skills received between students who had an EWI in math as opposed to

those who did not ($t(70) = 2.205$, $p = .031$), between students who had an EWI in science and did not ($t(434) = 2.667$, $p = .008$), and between students who had an EWI in discipline referrals and those who did not ($t(434) = 2.320$, $p = .021$). In all of these cases, the students who had a specific EWI received fewer hours of Life/Social Skills than those who did not have the EWI. Students who had an EWI in math received a significantly lower mean number of hours (M=5.23, SD=6.12) than students who *did not* have an EWI in math (M=7.40, SD=7.32). Students who had an EWI in science received a significantly lower mean number of hours (M=3.47, SD=3.40) than students who *did not* have an EWI in science (M=7.40, SD=7.34). Finally, Students who had an EWI in discipline referrals received a significantly lower mean number of hours (M=5.22, SD=5.52) of Life/Social Skills services than students who *did not* have an EWI in discipline referrals (M=7.49, SD=7.42). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, social studies, retention, and attendance) did not reveal a statistical significance.

Mean comparisons of the number of hours of Assessment and Orientation services based on the number of EWIs did show a statistically significant difference ($F(5, 430) = 2. 163$, $p = .024$). However, post hoc analyses did not indicate a significant difference in the mean number of hours between the groups. A t-test measuring differences in the mean number of hours of Assessment and Orientation services received between students who had an EWI in science as opposed to those who did not was significant ($t(30) = 2.305$, $p = .028$). Students who had an EWI in science received significantly fewer hours (M=2.06, SD=.47) than their peers who did not have an EWI in science (M=2.27, SD=.49). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, math, social studies, retention, attendance, and discipline referrals) did not reveal a statistical significance.

Table 42. Mean Number of Service Hours within Service Types Received by a Majority of the Students and Prior Year Outcomes

	Enrichment and Motivation				Academic Support				Goal Setting				Consultation, Staffing, and Teacher Communication			
	M	*SD*	Min	Max	*M*	*SD*	Min	Max	*M*	*SD*	Min	Max	*M*	*SD*	Min	Max
Number of EWIs																
0	5.85	11.94	0	71.00	**3.17***	5.42	0	38.25	2.99	5.91	0	58.50	.89	1.48	0	15.00
1	4.57	9.63	0	55.00	**5.77***	7.60	0	40.50	4.13	11.38	0	69.75	.88	1.12	0	5.25
2	3.22	7.44	0	28.25	5.47	7.72	0	26.25	1.68	2.69	0	9.75	.99	1.27	0	3.75
3	7.43	8.80	0	24.50	3.54	4.19	0	14.75	5.14	10.53	0	35.00	1.68	1.90	0	5.75
4	.72	1.14	0	3.25	3.66	3.67	0	9.75	.84	1.04	0	3.00	.72	.54	0	1.25
5	8.90	18.51	0	42.00	4.60	3.88	.25	9.00	.60	.55	0	1.00	.65	.94	0	2.25
EWI in Core Subject Area																
ELA	4.24	8.03	0	42.00	5.56	6.03	0	28.25	2.85	6.44	0	35.00	1.11	1.39	0	5.75
Math	5.46	11.79	0	55.00	**5.40***	8.20	0	40.50	**5.04***	14.03	0	69.75	.82	.94	0	3.75
Science	4.02	9.28	0	42.00	3.80	4.06	0	14.75	.78	1.12	0	4.50	.84	1.30	0	5.75
Social Studies	7.44	12.25	0	42.00	4.84	4.79	0	15.00	4.15	8.24	0	35.00	1.02	1.35	0	5.25
Retained	7.90	14.50	0	33.50	2.95	3.62	0	7.25	2.25	2.80	.25	7.00	.65	.60	0	1.50
Attendance EWI	5.45	12.43	0	42.00	5.25	8.11	0	26.25	1.90	3.11	0	12.00	1.05	1.37	0	3.75
Discipline EWI	3.44	7.06	0	42.00	4.25	4.89	0	17.50	2.05	4.23	0	22.00	1.20	1.79	0	11.50

	Family Engagement				Supportive Counseling				Life/ Social Skills				Assessment and Orientation			
	M	*SD*	Min	Max	*M*	*SD*	Min	Max	*M*	*SD*	Min	Max	*M*	*SD*	Min	Max
Number of EWIs																
0	1.60	2.52	0	17.50	6.01	6.35	0	52.00	7.53	7.58	0	44.75	2.26	.49	1.00	5.00
1	1.46	1.79	0	9.50	4.62	5.05	0	28.00	7.51	6.64	0	35.50	2.36	.52	2.00	4.00
2	1.24	1.86	0	7.00	4.38	3.42	0	10.75	4.08	4.74	0	16.00	2.06	.48	1.00	3.00
3	1.64	1.64	.25	5.25	2.82	3.10	0	9.00	4.39	3.15	0	9.50	2.04	.27	1.50	2.50
4	.72	.69	0	2.00	4.09	2.57	1.00	8.25	3.03	2.87	0	8.50	1.87	.35	1.00	2.00
5	.75	.73	0	1.75	6.80	2.32	4.25	9.75	3.10	4.67	0	10.50	2.30	.45	2.00	3.00
EWI in Core Subject Area[1]																
ELA	1.45	1.52	0	6.50	**3.81***	3.04	0	9.75	6.08	5.78	0	19.75	2.27	.50	1.00	3.75
Math	1.19	1.34	0	7.00	4.90	5.21	0	28.00	5.34*	6.14	0	35.50	2.27	.57	1.00	4.00
Science	1.33	1.85	0	8.25	4.79	3.40	0	12.00	3.60**	3.40	0	11.50	**2.06***	.47	1.00	3.00
Social Studies	1.49	2.22	0	9.50	4.42	3.35	0	12.00	6.63	5.06	0	16.00	2.11	.30	2.00	3.25
Retained	.85	.58	.25	1.75	6.20	4.97	1.00	14.00	6.35	4.46	0	10.75	2.00	0	2.00	2.00
Attendance EWI	.63	1.00	0	4.00	4.67	3.49	0	10.75	4.80	4.01	0	11.25	2.23	.38	2.00	3.00
Discipline EWI	1.82	2.55	0	12.75	5.58	7.30	0	52.00	5.22*	5.52	0	31.00	2.17	.44	1.00	3.75

[1]The mean, standard deviation, and range is only provided for those students who have a specific EWI

*p<.05

**p<.01

Mean number of service hours within service types received by approximately half of the students and prior year outcomes. There are two service types that were previously classified as service types received by approximately half of the students: Basic Health and Human Services and Check-in. Table 43 provides an overview of the mean number of hours of Basic Health and Human Services and Check-in services received by the number of EWIs present and the presence of the specific EWIs.

Table 43. Mean Number of Service Hours within Service Types Received by Approximately Half of the Students and Prior Year Outcomes

	Basic Health and Human Services				Check-in			
	M	SD	Min	Max	*M*	SD	Min	Max
Number of EWIs								
0	1.42	3.38	0	26.25	.51	1.16	0	8.75
1	1.43	3.60	0	25.25	.68	1.14	0	7.75
2	.91	1.62	0	5.00	.13	.46	0	2.00
3	2.98	3.34	0	8.25	.18	.32	0	1.00
4	.44	.64	0	1.75	.41	.52	0	1.25
5	.90	1.75	0	4.00	.45	.62	0	1.50
EWI in Core Subject Area[1]								
ELA	1.59	2.76	0	10.50	.38	.57	0	2.00
Math	1.56	3.98	0	25.25	.30	.66	0	3.25
Science	1.13	2.17	0	8.25	.44	.60	0	2.00
Social Studies	1.18	2.20	0	8.25	.73	1.68	0	7.75
Retained	**.30****	.32	0	.75	.25	.43	0	1.00
Attendance EWI	.63	1.54	0	5.00	.38	.60	0	1.50
Discipline EWI	1.10	1.87	0	7.00	.49	.72	0	2.25

[1]The mean, standard deviation, and range is only provided for those students who have a specific EWI
*p<.05
**p<.01

Mean comparisons of the number of hours of Basic Health and Human Services based on the number of EWIs did not show a statistically significant difference. A series of independent samples t-tests measuring the differences in the mean number of Basic Health and Human Services hours received based upon the presence of a specific EWI revealed one notable finding. Students who had an EWI in retention received significantly fewer hours of Basic Health and Human Services (*M*=.30, *SD*=.32) than their peers who were promoted (*M*=1.43, *SD*=3.33), *t*(19)

= 5.208, $p < .000$. The mean number of hours received based on the other specific EWIs (ELA, math, science, social studies, attendance, and discipline referrals) did not reveal a statistical significance. Bivariate analyses revealed no statistically significant differences in the mean number of Check-in hours received based upon the number of EWIs present and the presence of the specific EWIs.

Mean number of service hours within service types received by fewer than a quarter of the students and prior year outcomes. There are three service types that were previously classified as service types received by fewer than a quarter of the students: Behavior Intervention/ Modification, Mentoring, and Other. Table 44 provides an overview of the mean number of hours of Behavior Intervention/ Modification, Mentoring, and Other services received by the number of EWIs present and the presence of the specific EWIs.

Mean comparisons of the number of hours of Behavior Intervention/ Modification services based on the number of EWIs showed a statistically significant difference ($F(5, 430) = 3.232$, $p = .007$). A Tukey HSD indicated there was no difference between the groups. A series of independent samples t-tests showed a statistically significant difference in the mean number of hours of Behavior Intervention/ Modification received between students who had an EWI in ELA as opposed to those who did not ($t(434) = -2.256$, $p < .025$) and between students who had an EWI in discipline referrals and those who did not ($t(434) = -3.852$, $p < .000$). In both of these cases, the students who had a specific EWI received more hours of Behavior Intervention/ Modification than those who did not have the EWI. Students who had an EWI in ELA received a significantly higher mean number of hours (M=.74, SD=1.23) than students who *did not* have an EWI in ELA (M=.35, SD=1.02). Students who had an EWI in discipline referrals received a significantly higher mean number of hours (M=.84, SD=1.35) than students who *did not* have an

EWI in discipline referrals (*M*=.30, *SD*=.96). Further examination of the differences in the mean number of hours received based on the other specific EWIs (math, social studies, retention, and attendance) did not reveal a statistical significance.

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Mentoring services received based upon the number of EWIs. However, a series of independent samples t-tests showed a statistically significant difference in the mean number of hours of Mentoring received between students who had an EWI in math as opposed to those who did not ($t(205) = 2.074$, $p = .039$), between students who had an EWI in social studies and did not ($t(415) = 4.656$, $p < .000$), and between students who had an EWI in attendance and did not ($t(49) = 2.034$, $p = .047$). In all of these cases, the students who had a specific EWI received fewer hours of Mentoring than those who did not have the EWI. Students who had an EWI in math received a significantly lower mean number of hours (*M*=.70, *SD*=2.62) than students who *did not* have an EWI in math (*M*=1.82, *SD*=7.90). Students who had an EWI in social studies received a significantly lower mean number of hours (*M*=.02, *SD*=.07) than students who *did not* have an EWI in social studies (*M*=1.78, *SD*=7.66). Finally, students who had an EWI in attendance received a significantly lower mean number of hours (*M*=.63, *SD*=1.52) than students who *did not* have an EWI in attendance (*M*=1.31, *SD*=7.61). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, science, retention, and discipline referrals) did not reveal a statistical significance.

Bivariate analyses revealed no statistically significant differences in the mean number of hours of Other services received based upon the number of EWIs. A t-test measuring differences in the mean number of hours of Other services received based upon the presence or absence of an EWI in retention yielded a significant result ($t(431) = 5.714$, $p < .000$). Students who were

retained did not receive any Other services, whereas those who were promoted received a mean of .29 hours (*SD*=1.06). Another t-test revealed a significant difference in the mean number of hours received between students who had an EWI in attendance and did not ($t(140) = 4.267$, $p < .000$). Students who had an EWI in attendance received a significantly lower mean number of hours (*M*=.03, *SD*=.13) than students who *did not* have an EWI in attendance (*M*=.30, *SD*=1.07). Further examination of the differences in the mean number of hours received based on the other specific EWIs (ELA, math, science, social studies, and discipline referrals) did not reveal a statistical significance.

Table 44. Mean Number of Service Hours within Service Types Received by Fewer than a Quarter of the Students and Prior Year Outcomes

	Behavior Intervention/ Modification				Mentoring				Other			
	M	SD	Min	Max	*M*	SD	Min	Max	*M*	SD	Min	Max
Number of EWIs												
0	.28	.93	0	10	2.08	8.64	0	128	.32	1.13	0	8.50
1	.64	1.33	0	6.00	.42	1.72	0	12.50	.18	.89	0	5.50
2	.30	.64	0	2.00	1.10	2.52	0	8.00	.25	.82	0	3.50
3	.89	1.59	0	4.50	.43	1.08	0	3.50	.36	1.05	0	3.50
4	.91	1.02	0	3.00	2.66	5.66	0	16.00	0			
5	1.20	1.30	0	3.00	0				0			
EWI in Core Subject Area[1]												
ELA	**.74***	1.23	0	4.50	1.16	3.15	0	16.00	.10	.57	0	3.50
Math	.55	1.00	0	4.50	**.70***	2.62	0	16.00	.22	.87	0	5.00
Science	.68	1.17	0	4.50	1.45	3.53	0	16.00	.17	.69	0	3.50
Social Studies	.89	1.35	0	5.25	**.02****	.07	0	.25	.44	1.11	0	3.50
Retained	.52	1.05	0	4.25	3.20	7.16	0	16.00	**0****	0	0	0
Attendance EWI	.55	1.08	0	3.50	**.63***	1.52	0	5	**.03****	.13	0	.50
Discipline EWI	**.84****	1.34	0	6.00	2.94	16.24	0	128.0	.15	.75	0	5.50

[1]The mean, standard deviation, and range is only provided for those students who have a specific EWI
*p<.05
**p<.01

Summary of Number of Hours Received by Service Type and Prior Year Outcomes

Overall, mean comparisons of the total number of hours received for the distinct service types based the number of EWIs did not reveal significant differences between the groups with

the exception of one service type. Mean comparison of the number of hours of Academic Support revealed that students who had one EWI received significantly more hours than students who had zero EWIs. The mean comparisons of the total number of hours received for the distinct service types based the presence or absence of a EWI indicated several significant differences. It is interesting to note that the presence of an EWI did not always correspond to receiving a higher mean number of hours. For several of the distinct service types such as Life/Social Skills and Mentoring, the students who did have a the specific EWI received significantly fewer hours of services than those who *did not* have the specific EWI.

Multiple Regression Modeling

To examine the contributions of Level Two services on students' academic outcomes, separate regression analyses were conducted for each of the seven academic outcomes. Ordinary Least Squares (OLS) regression was used to predict the variance explained with continuous dependent variables (final grades in ELA, math, science, and social studies, attendance, and discipline referrals) and binary logistic regression was used to predict the variance explained with the dichotomous variable (promotion/retention).

As previously discussed, the data were prescreened for assumptions of completeness of data, outliers, multicollinearity, and homoscedasticity for each of the regression models. The one issue with outliers was remedied by deleting the observation and is therefore not included in this discussion. There was also the previously discussed issue with the data for five of the independent variables that were found to be missing not at random. Listwise deletion was employed for each of the models.

The models were built in a series of successive steps where variables were individually added, then removed or retained based upon its statistical significance at the $p<.05$ level. A

baseline model was built for each of the dependent variables (the focal year outcomes) using the prior year outcomes and student characteristics in order to examine how much of the variance in focal year outcome variables can be explained without introducing Level Two services. During the prescreening process, there was an issue with the multicollinearity between the prior year outcomes. To rectify this issue, the development of the baseline models were created by only including the same prior year outcome as the dependent variable under investigation and to use the Number of EWIs which would serve as a proxy for the overall level of risk based on the prior year outcomes (see Table 45). In other words, to examine the dependent variable SY2011-2012 Attendance, the development of the baseline model included SY2010-2011 Attendance and Number of EWIs. Number of EWIs was included in the next step if it was statistically significant. In the next step, all of the student characteristics were included and either removed or retained. The student characteristic variables used in these regression analyses were: Sex (0=male, 1=female), Grade level for the focal year, Number of years in the program, and Race/Ethnicity. Race/Ethnicity status was entered using dummy codes (D_1=1 for Hispanic, 0= for everyone else; D_2=1 for American Indian and Hispanic, 0= for everyone else; D_3=1 for African American, 0= for everyone else; and D_4=1 for Other, 0= for everyone else).

In the next series of steps, the services provided by CIS in the focal year were entered individually and either removed or retained based upon its statistical significance at the $p<.05$ level. The two key volume constructs were individually entered first, Total Number of Service Types Received and Total Number of Hours Received. If one or both were significant, they were included in the next step as each of the distinct service types (coded as 0= did not receive, 1= received) were examined. During this step of the model building process, the distinct service types were individually entered and then removed before examining the next distinct service

type. A list was made of the distinct service types that were statistically significant. Once all 13 service types were examined individually, the number of hours of each distinct service type was examined. In the same manner, the number of hours of each distinct service type was individually entered and the removed before examining the next variable. A list was also made of those variables that were found to be significant. Once all of the distinct service types and number of hours of each distinct service type were examined, the final model was run with all significant variables.

Finally, another problem was detected when binary logistic regression was employed with the dichotomous dependent variable, Promotion/Retention for the focal year. The dependent variable and the corresponding independent variable (SY2010-2011 Promotion) had too many empty cells. In the sample, less than two percent of the students were retained at the end of the 2011-2012 school year (1.6%, n=7) and 98.4% of the sample were promoted. And, even fewer students were retained at the end of the 2010-2011 school year (1.1%, n=5). Therefore, this dependent variable was essentially a constant and was not examined any further in this study. The following section describes the final model for each of the dependent variables.

Table 45. Variables and Steps for Multiple Regression Modeling

Independent Variables	
Step 1	
SY2010-2011 Outcome (matched to DV)	
Step 2	
Number of EWIs	
Only those significant at p<.05 are retained for next step	
Step 3	
Student Characteristics (Sex, Grade Level, Race/Ethnicity, Years in Program)	
Only those significant at p<.05 are retained for next step	
Step 4	
Total Number of Service Types	
Total Number of Hours	
Only those significant at p<.05 are retained for next step	
Step 5	
Distinct Service Type	
Number of Hours for Each Distinct Service Type	
Dependent Variables	**Multivariate Analysis Procedure**
SY2011-2012 Attendance	OLS Regression
SY2011-2012 Discipline referrals	
SY2011-2012 ELA	
SY2011-2012 Math	
SY2011-2012 Science	
SY2011-2012 Social Studies	

Total Number of Absences

The model that included the prior year outcome (SY2010-2011 Attendance), Number of EWIs and student characteristics predicted 17% of the variance (R^2_{adj} = .170) in the dependent variable and was statistically significant (F(3, 418) = 29.813, p<.000). The only student characteristic that was significant and included in the next step was Sex. The final model included Total Number of Service Types received as well as four distinct service types: Goal Setting, Life/Social Skills, Family Engagement, and Check-in services (see Table 46). In addition, the total number of hours of Goal Setting services and Check-in services received was also significant. The inclusion of these variables increased the Adjusted R^2 to .226 and the model was significant ($F(10,411) = 13.297$, $p < .000$). However, in the final model Total Number of

Service Types received, Goal Setting services, Life/Social Skills services, Check-in services and the number of hours of Check-in services were no longer statistically significant. This indicates that for Goal Setting services in particular, it is not necessarily whether or not a student receives this type of service that is important, but rather how much (the dosage) of the service that has an impact on attendance. The final model suggests that providing Family Engagement services (*B*= -3.695, β=-.119) and providing more hours of Goal Setting services (*B*=-.165, β=-.098) was associated with a decreased number of absences. The final model also suggests that providing Check-in services (*B*=3.660, β=.147) was associated with an increased the number of absences.

Table 46. Final Step of Model Predicting Total Number of Absences

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Attendance	.360	.058	.304	6.233	**.000****	.246	.473
Number EWIs	1.922	.613	.153	3.134	**.002****	.716	3.127
Sex	2.739	1.098	.111	2.495	**.013***	.581	4.898
Total Number of Services	.655	.395	.105	1.658	.098	-.121	1.431
Goal Setting	-1.417	1.281	-.053	-1.106	.269	-3.935	1.101
Life/Social Skills	-2.963	1.596	-.086	-1.857	.064	-6.099	.174
Family Engagement	-3.695	1.505	-.119	-2.456	**.047***	-6.653	-.737
Check-in	2.761	1.509	.111	1.829	.068	-.206	5.727
Goal Setting Hours	-.165	.077	-.098	-2.161	**.031***	-.318	-.019
Check-in Hours	.862	.596	.076	1.447	.149	-.538	1.832
Adj R^2	.226						

*p<.05
**p<.01

Total Number of Discipline Referrals

Predicting the total number of discipline referrals proved to be a rather interesting task. Pre-screening measures detected three outliers that could influence the results of the regression analyses. The analyses were run both with the outliers and without the outliers. During the initial steps of building the model with the outliers, it was found the Number of EWIs was not

significant and none of the student characteristics were significant. Neither the Total Number of Service Types nor the Total Number of Service Hours was significant. The final model with the outliers included, R^2_{adj} = .188, was statistically significant ($F(2,433) = 51.481$, $p < .000$) and only included the addition of Check-In services (see Table 47). The receipt of Check-In services (*B*=1.652, β=.094) appears to be related to an increased number of discipline referrals a student has at the end of the school year.

Table 47. Final Step of Model Predicting Total Number of Disciplinary Referrals with Outlier

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Behavior	.599	.061	.425	9.833	**.000****	.479	.719
Check-In	1.652	.759	.094	2.176	**.030***	.160	3.144
Adj R^2	.188						

*p<.05
**p<.01

The three outliers were removed from the sample and the steps of building the model were replicated starting from the beginning. Similar to the previous model, the Number of EWIs was not significant nor were any of the student characteristics. The final model included the Total Number of Service Types, Check-in services, and the total number of hours of both Goal Setting services and Consultation, Staffing, and Teacher Communication services (see Table 48). The percent of variance predicted was higher in this model, R^2_{adj} = .201, and was statistically significant ($F(5,427) = 22.695$, $p < .000$). In the final model, Total Number of Service Types was no longer significant. Similar to the model with the outliers, the receipt of Check-In services (*B*=2.057, β=.135) is associated with an increased number of discipline referrals a student has at the end of the school year. Furthermore, an increase in the number of hours of Consultation, Staffing, and Teacher Communication services (*B*=.571, β=.108) is also associated with an increased number of discipline referrals. It appears from these results the only service that was

associated with a decreased number of discipline referrals is an increased number of hours of Goal Setting services (*B*=-.098, β=-.094); however, its impact on this outcome is relatively modest compared to the impact of Check-in services and the number of hours of Consultation, Staffing, and Teacher Communication services.

Table 48. Final Step of Model Predicting Total Number of Disciplinary Referrals without Outlier

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Behavior	.526	.058	.390	9.008	**.000****	.412	.641
Total Number of Service Types	.013	.203	.003	.063	.950	-.386	.412
Check-In	2.057	.770	.135	2.671	**.008****	.543	3.572
Goal Setting Hours	-.098	.046	-.094	-2.153	**.032***	-.188	-.009
Consultation Hours	.571	.244	.108	2.340	**.020***	.092	1.051
Adj R^2	.201						

*p<.05
**p<.01

Final Grade in English/Language Arts

The model that included the prior year outcome (SY2010-2011 ELA) and Number of EWIs predicted 28.1% of the variance (R^2_{adj} = .281) and was statistically significant (F(2,382) = 76.027, p<.000). No student characteristics were significant and included in the next step. The final model included two distinct service types: Goal Setting and Supportive Counseling services (see Table 49). The model also included the total number of hours for two distinct service types: Academic Support services and Goal Setting services. The inclusion of these variables increased the Adjusted R^2 to .331 and the model was significant (F(6,378) = 32.679, p < .000). The final model suggests that providing Goal Setting services (*B*= 2.517, β=.122) and Supportive Counseling services (*B*=2.413, β=.099) is associated with an increased final grade in English/Language Arts. The final model also suggests that for Goal Setting services in particular, an increase in the number of hours provided is related to an increased final grade (*B*=.126,

β=.101). Conversely, an increase in the number of hours provided of Academic Support services was related to a decreased final grade in English/Language Arts (*B*=-.232, β=.149).

Table 49. Final Step of Model Predicting the Final Grade in English/Language Arts

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 ELA	.376	.056	.359	6.754	**.000****	.267	.486
Number EWIs	-1.767	.492	-.190	-3.591	**.000****	-2.735	-.799
Goal Setting	2.517	.910	.122	2.766	**.006***	.728	4.306
Supportive Counseling	2.413	1.027	.099	2.351	**.019***	.394	4.431
Academic Support Hours	-.232	.068	-.149	-3.413	**.001****	-.365	-.098
Goal Setting Hours	.126	.057	.101	2.213	**.027***	.014	.237
Adj R^2	.331						

*p<.05
**p<.01

Final Grade in Math

The model that included the prior year outcome (SY2010-2011 Math), Number of EWIs, and student characteristic predicted 24.6% of the variance (R^2_{adj} = .246) and was statistically significant (F(3,383) = 43.082, p<.000). The only student characteristic significant and included in the next step was Grade Level for the focal year. The final model included Total Number of Hours received, Enrichment and Motivation services, and Academic Support Hours (see Table 50). The inclusion of these variables increased the Adjusted R^2 to .284 and the model was significant (*F(*6,380) = 26.460, *p* < .000). The final model suggests that increasing the overall Total Number of Hours (*B*= .042, β=.123) and providing Enrichment and Motivation services (*B*= 2.987, β=.155) is associated with an increased final grade in math. Conversely, increasing the number of hours of Academic Support services (*B*= -.177, β=-.115) is related to a decreased final grade in math.

Table 50. Final Step of Model Predicting the Final Grade in Math

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Math	.342	.053	.335	6.424	**.000****	.237	.447
Number EWIs	-1.801	.479	-.196	-3.763	**.000****	-2.742	-.860
SY2011 Grade	1.994	.739	.118	2.700	**.007****	.542	3.446
Total Number of Hours	.042	.018	.123	2.379	**.018***	.007	.077
Enrichment and Motivation	2.987	.879	.155	3.400	**.001****	1.260	4.715
Academic Support Hours	-.177	.078	-.115	-2.273	**.024***	-.331	-.024
Adj R^2	.284						

*p<.05
**p<.01

Final Grade in Science

The model that included the prior year outcome (SY2010-2011 Science) and Number of EWIs predicted 27.5% of the variance (R^2_{adj} = .275) and was statistically significant (F(2,387) = 74.764, p<.000). No student characteristics were significant and included in the next step. The final model included Total Number of Hours received and three distinct service types: Family Engagement, Enrichment and Motivation, and Check-In services (see Table 51). The model also included the number of Mentoring hours. The inclusion of these variables increased the Adjusted R^2 to .307 and the model was significant ($F(7,382) = 25.563$, $p < .000$). The final model suggests that increasing the Total Number of Hours (*B*= .049, β=.140) and providing Enrichment and Motivation services (*B*= 1.792, β=.092) is associated with an increased final grade in science. However, providing Family Engagement services (*B*= -2.417, β=-.099), Check-In services (*B*= -1.905, β=-.100), and increasing the number of Mentoring Hours (*B*= -.116, β=-.095) is associated with a decreased final grade in science.

Table 51. Final Step of Model Predicting the Final Grade in Science

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Science	.333	.058	.303	5.740	**.000****	.219	.447
Number EWIs	-2.399	.489	-.258	-4.904	**.000****	-3.360	-1.437
Total Number of Hours	.049	.018	.140	2.704	**.007****	.013	.084
Family Engagement	-2.417	1.056	-.099	-2.289	**.023***	-4.494	-.341
Enrichment and Motivation	1.792	.892	.092	2.008	**.045***	.038	3.546
Check-in	-1.905	.837	-.100	-2.276	**.023***	-3.550	-.259
Mentoring Hours	-.116	.059	-.095	-1.981	**.048***	-.231	-.001
Adj R^2	.307						

*p<.05
**p<.01

Final Grade in Social Studies

The model that included the prior year outcome (SY2010-2011 Social Studies) and Number of EWIs predicted 15.3% of the variance (R^2_{adj} = .153) and was statistically significant (F(2,388) = 36.181, p<.000). No student characteristics were significant and included in the next step. The final model included three distinct service types: Goal Setting, Consultation, Staffing, and Teacher Communication, and Basic Health and Human Services. The model also included the total number of hours for three distinct service types: Consultation, Staffing, and Teacher Communication services, Academic Support services, and Enrichment and Motivation services (see Table 52). The inclusion of these variables increased the Adjusted R^2 to .233 and the model was significant (*F(*8,382) = 15.830, *p* < .000). The final model suggests that providing Goal Setting services (*B*= 2.654, β=.119) and Consultation, Staffing, and Teacher Communication services (*B*= 3.536, β=.145) is associated with an increased final grade in social studies. Furthermore, increasing the number of hours of Enrichment and Motivation services (*B*= .109, β=.124) is also associated with an increased final grade. Conversely, increasing the number of hours of Consultation, Staffing, and Teacher Communication services (*B*= -1.098, β=-.128) and

the number of hours of Academic Support services (*B*= -.224, β=-.132) as well as providing Basic Health and Human Services (*B*= -2.228, β=-.108) appears to be related to a decreased final grade in social studies.

Table 52. Final Step of Model Predicting the Final Grade in Social Studies

Variable	*B*	*SE*	β	*t*	Sig	Confidence Intervals	
SY2010 Social Studies	.237	.066	.195	3.578	**.000****	.107	.367
Number EWIs	-2.084	.543	-.205	-3.836	**.000****	-3.152	-1.016
Goal Setting	2.654	1.011	.119	2.624	**.009****	.665	4.642
Consultation	3.536	1.210	.145	2.923	**.004****	1.157	5.915
Basic Needs	-2.228	.994	-.108	-2.242	**.026***	-4.182	-.274
Consultation Hours	-1.098	.423	-.128	-2.595	**.010***	-1.929	-.266
Academic Support Hours	-.224	.081	-.132	-2.767	**.006****	-.382	-.065
Enrichment and Motivation Hours	.109	.041	.124	2.694	**.007****	.030	.189
Adj R^2	.233						

*p<.05
**p<.01

Summary of Multiple Regression Analyses

The results of the final six multiple regression models suggest that, after the prior year outcome and students characteristics are controlled for, the type of service received and or the number of hours received of specific services was associated with a change in the end of year school outcomes for the students in this sample. However, the results indicated that some service types may actually be associated with negative outcomes. Table 53 summarizes each of the outcome variables that were examined and the service types that were found to be statistically significant during the model building process. The results indicated that it was not the total number of service types nor the total number of hours of services received that was associated with the outcome variables, but rather the distinct service types and or number of hours of a distinct service type the students received. It is interesting to note that for some service types,

such as Academic Support, it was not a matter of whether or not the service type was received that was associated with a change in the focal year outcome, but rather the number of hours for that specific service type. And for other service types, such as Family Engagement, it was the opposite where the number of hours was not associated with a change in the outcome as opposed to simply receiving or not receiving the service. There were also two service types, Behavior Intervention/ Modification and Other services, that were not significant in any of the models.

Table 53. Regression Coefficients for Service Variables in the Multiple Regression Analyses

	End of 2011-2012 School Year Outcome (focal year)					
Variables	Attendance	Discipline Referrals	ELA	Math	Science	Social Studies
Total Number of Service Types	.655	.013				
Total Number of Hours				**.042***	**.049****	
Academic Support						
Academic Support Hours			**-.232****	**-.177***		**-.224****
Goal Setting	-1.417		**2.517****			**2.654****
Goal Setting Hours	**-.165***	**-.098***	**.126***			
Life/Social Skills	-2.963					
Life/Social Skills Hours						
Family Engagement	**-3.695***				**-2.417***	
Family Engagement Hours						
Supportive Counseling			**2.413***			
Supportive Counseling Hours						
Consultation, Staffing, and Teacher Communication	.149					**3.536****
Consultation, Staffing, and Teacher Communication Hours		**.571***				**-1.098****
Enrichment and Motivation				**2.987****	**1.792***	
Enrichment and Motivation Hours						**.109****
Basic Health and Human Services						**-2.228***
Basic Health and Human Services Hours						
Check-in	**2.761**	**2.057****			**-1.905***	
Check-in Hours	.862					
Behavior Intervention/ Modification						
Behavior Intervention/ Modification Hours						
Mentoring						
Mentoring Hours					**-.116***	
Other						
Other Hours						
Assessment and Orientation Hours						

Note. Results reported for the model predicting the total number of disciplinary referrals without the outliers
*p<.05
**p<.01

CHAPTER 6

Discussion

This chapter begins with a study synopsis followed by a discussion of the significant findings. A discussion about the strengths and limitations of this study and the implications and suggestions for future research is also included.

Study Synopsis

Communities In Schools is a national drop-out prevention program that serves more than 1.4 million children across 26 states and the District of Columbia. The CIS model positions site coordinators in schools to coordinate and provide a combination of Level One (whole school) and Level Two (individual student) services. Level Two services are provided to students identified at being at-risk for not graduating. The needs of each student are assessed and the site coordinator provides services that address both academic and non-academic barriers to a student's success in school.

A conceptual model was presented in Chapter Two to provide a framework for understanding the relationship between risk factors and school dropout and CIS Level Two services in promoting school completion and positive outcomes in life. The number of risk factors within various domains of a student's life, over time, can manifest as poor academic achievement and set a student on a trajectory towards school dropout. Previous research has suggested that a significant number of students who eventually dropped out of school exhibited early warning signs in their academic performance as early as the sixth grade. CIS seeks to

interrupt this negative trajectory by providing Level Two services to students either before the student begins to exhibit an early warning sign or after. Positive youth development (PYD) and resilience theory were used to guide how Level Two services are conceptualized and how they promote positive outcomes for students. Resilience theory suggests that with the right combination of protective factors over time, every individual has the capacity for resilience in the context of high risk. PYD asserts that rather than only focusing on the absence of problems within youth, youth need a variety of opportunities and supports from various domains in their life in order to become socially, morally, emotionally, physically, and cognitively competent. The development and nurturing of the "Five Cs", competence, confidence, connection, character, and caring and compassion, are needed in order to buffer the risks, effect the level of risk, and provide protective factors in order to support the overall development of each student.

While a national evaluation and internal end of year reports suggest the CIS model is working to reduce school dropout, there is a need to have a deeper understanding of what, within the model, is working best, with whom and in what circumstances. Therefore, the primary aim of this study was to develop an increased understanding of Level Two services, to explore whether service provision varies systematically in relation to student outcomes and student characteristics, and to gain initial understandings of whether service provision is related to end-of-year outcomes.

This study fills a gap in the literature by examining the services that address both the academic and non-academic barriers to student success and their relationship to academic outcomes. This secondary data analysis was guided by three research questions:

1. What Level Two services are provided to students by Communities In Schools?

2. Do CIS Level Two services vary by student characteristics and prior year outcomes? If so, which student characteristics and prior year outcomes are related to provided services?
3. To what extent do CIS Level Two services relate to student outcomes by the end of the school year?

Data were obtained from CIS of Central Texas, Inc. for Level Two middle school students who received services during the 2011-2012 school year. Three primary measures were used in this study: student outcomes, student characteristics, and service categories. This study used academic outcome variables consistent with the early warning indicators (EWIs) literature. Therefore, the student outcome variables associated with this study are: attendance, discipline referrals, grades (math, English/language arts [ELA], science, and social studies), and promotion/retention. The student outcome variables for the prior academic year (SY2010-2011) and the focal year (SY2011-2012) were included. Several variables were used to characterize the students at the beginning of the focal year: sex, grade level, race/ethnicity, and number of years in the program. The service categories were derived from initially conducting a thematic analysis of a sub-set of the service notes, and then manually coding each service note. The service categories were coded to capture both the receipt of a particular service and the total amount of time.

Data analyses were completed using SPSS version 22 and consisted of primarily descriptive statistics to aid in summarizing, organizing, and describing the data. Service delivery was examined using two volume constructs: number of types of services received; and amount of services (in hours) received. Bivariate statistical tests were used to examine the differences in the two service volumes based on student characteristics and prior year outcomes. Multiple

regression analyses were employed to examine in what ways services were related to student outcomes. The following section discusses the significant findings.

Significant Findings

Variation in Services Received

The thematic analysis of the service notes generated 13 distinct types of services that were used in the subsequent analyses. Collectively, the service types represented all of the components of positive youth development. In addition, some of the service types appear to address the presence of a risk factor. For example, Basic Health and Human Services assists students with potential barriers that may interfere with their success in school through the provision of clothing (e.g. jackets, uniforms), food (e.g. snacks, Thanksgiving baskets, food from a food bank), or transportation (e.g. transportation to medical appointments).

The findings suggest that students received a total of 3 to 12 types of services, although the majority of the students received between 6 and 10 total types of services. Overall, it appears that students are receiving many types of services. Further examination of the distinct service types revealed that some service types were delivered to many more students than others. Looking at the eight service types that were received by a majority of the students, all Five C's of the positive youth development components were found in those service types. This implies that site coordinators are using a holistic approach and are providing services that support overall positive youth development as opposed to focusing on one or two components. As the Five C's support both the reduction of problems (i.e. failing grades, behavioral issues) and the positive development of students, it is difficult to surmise if the eight service types were provided to a majority of students because there was a common issue or to build protective factors.

The number of students who received each distinct service sub-type was examined and found that some of service types, the variation in the number of students who received each sub-type is significant in the context of the intensity of the sub-type's services. For example, within the Basic Health and Human Services sub-types, a higher percentage of students received the Provision of a Basic Health and Human Service (38.7%, n=169) than those who only received the Discussion of the Provision of Basic Health and Human Services (19.2%, n=84). This may suggest that in order to ensure that the students and their families receive the basic needs items, they are employing a concept in the Strengths Based Case Management Model (SBCM), advocacy in resource acquisition (Rapp & Wintersteen, 1989). Advocacy in resource acquisition goes beyond referrals to the case manager actively working with "community resources to achieve fulfillment of [the] needs" (Rapp & Wintersteen, 1989, p. 26).

Conversely, within the Family Engagement sub-types, a majority of students (71.4%, n=312) received Mailings or Emails to their Parent/guardian and approximately a third (38.4%, n=168) received Contact with a Parent or Guardian either by Phone or in Person. Whereas the most intense level of Family Engagement, Parent/family Involvement in School Meetings or Events, was provided to the fewest families (20.4%, n=89). This may be a reflection of the challenges in engaging families in schools that is often noted in the literature (Hoover et al., 2005), and the mailings or emails are an initial attempt to engage families in the program and in their child's education. However, it could also imply that site coordinators are triaging and are employing the least time-intensive approach to engage with the parents. Future research may employ a case study design to interview site coordinators to discover their intentions and whether there is a triaging of services or a limit of resources.

Total hours of services received ranged from 4.25-228.25; however, the majority of students received between 10-39 hours during the focal year. When looking at the total number of hours and total number of service types, it appears that most students received a small amount of each service. It is unknown if this is a result of limited resources by CIS (e.g. number of tutors, number of mentors, available curricula, donated items for basic needs) and or community partners, or if this is a consequence of case load size. Another potential reason for this result is that it is a reflection of the amount of services the CIS site coordinators think is necessary for improved outcomes. Future research may examine the potential barriers to service delivery within the school and agency context to further understand how they may influence how services are distributed among the students.

Service Variation by Student Characteristics and Prior Year Outcomes

The results indicate that the total number of services does not significantly vary by student characteristics or prior year outcomes. With the exception of the presence of an EWI in science, the total number of hours does not vary by student characteristics or prior year outcomes. This may suggest that both the number of service types and the amount of service is not determined by demographic differences such as sex and race/ethnicity. This is an encouraging finding given that, once other risk factors such as poverty level are controlled for, the dropout literature proposes that sex and race/ethnicity are not a risk factor for school dropout (Rumberger, 2004). The lack of difference in the number of years in the program could be more a reflection of the student's individualized needs and progress as opposed to targeting a specific amount of services based on upon when a student enters a program.

A notable finding was the lack of significant difference in both the number of services received and the number of hours received between grade levels and for most of the prior year

outcomes. However, this finding may be congruent with the literature when considering the differences in the total number of hours of each distinct service type among prior year outcomes. Researchers contend that strategies need to be more targeted to reach specific grade levels of students, as identified by the key early warning indicators (Kennelly & Monrad, 2007). As previously discussed in Chapter 2, prior year outcomes were examined in this study based on the number of EWIs and the specific EWIs that were present. Balfanz and colleagues (2007) posit that as the number of EWIs present in as early as the sixth grade increases, the likelihood a student will graduate within one year of their expected date significantly decreases. Moreover, the presence of a specific EWI can negatively impact the likelihood a student will graduate. Upon examining the specific EWIs, the results indicated that there were significant differences for the total number of hours among various services; however, it was not always the case that those students who had the EWI received more hours of service. It could be for some of the services, there is a possible hierarchy or triaging where students who have a specific EWI receive specific services to address those areas, and those who do not have that EWI can take advantage of more maintenance or increased growth type services. For example, it was found that students who *did not* have an EWI in math, science, social studies, attendance, or discipline referrals received significantly more hours Life/Social Skills services and Mentoring services than those who did have an EWI in those areas. Conversely, those who did have EWI in ELA or math received significantly more hours of Behavior Modification/Intervention services and Academic Support services than those who *did not*. The examination of the differences in the number of hours of distinct service types received and number of EWIs revealed only one significant finding, the number of hours of Academic Support services. Those with one EWI received significantly more hours than those with zero EWIs. This may suggest that the number of hours

of each service type provided is based upon the specific EWIs as opposed to the number of EWIs.

Although student characteristics were not significantly related to the number of service types or number of hours, student characteristics were related to the number of hours for some of the distinct services types. In regards to sex, females received significantly more hours of Life/Social Skills than males, and males received significantly more Behavior Intervention/Modification than their female counterparts. This may suggest a gender stereotyping notion of females having more relationship issues and males having more behavioral issues. However, the lack of significant findings for the other 11 service types suggests the amount of the distinct services provided is not based upon this notion. There does not appear to be a difference for race/ethnicity, with the exception of Assessment and Orientation services; Hispanic students received significantly more hours than American Indian and Hispanic students. In addition, there does not appear to be a difference for grade level, with the exception of Goal Setting and Assessment and Orientation. In both cases, 8th grade students received significantly more hours than their 7th grade peers. For Goal Setting in particular, this could be an indication of the developmental level of the students whereby the site coordinators are preparing the 8th grade students for high school. Collectively, these findings along with the findings that there were no significant differences in the total number of services received and total number of hours received between sex, race/ethnicity, and grade level suggests that site coordinators are not basing service delivery on merely these demographic factors.

The number of years in the program did reveal some differences in the number of hours students received of various service types. Overall, it appears that students who have been in the program the least amount of time receive significantly more hours than those who have been in

the program for one or more years. This suggests the program may be providing a greater intensity of services when students first enter the program, and then it may taper off once they have been in the program for longer. This is particularly interesting given that there were no significant differences found in the overall total number of services provided or total number of hours received based upon the number of years in the program. Collectively, it could suggest that there are particular service types, as opposed to the entire menu of service types, that are provided at a greater intensity to students when they first enter the program and then it tapers off.

Relation of Services to Student Outcomes

In all of the regression models, the amount of variance explained increased when adding Level Two services, albeit a modest increase. The total number of services either was not significant in the first step or was not significant in the final model suggesting more types of services are not associated with better outcomes. This could suggest it is the specific services that are associated with better outcomes, rather than the idea that more services results in better outcomes. However, the total number of hours received was significant in the final models for math and science, suggesting that dosage (in terms of hours) may have an impact.

A counterintuitive finding was in all of the models with the exception of attendance; there were several services that appeared to be associated with a negative relationship with the outcome. The receipt of Check-in services was associated with an increase in discipline referrals and a decrease in the final grade in science. An increase in the number of hours of Consultation, Staffing, and Teacher Communication was associated with an increase in discipline referrals and a decrease in the final grade in social studies. And, perhaps the most peculiar finding, an increase in the number of Academic Support hours was associated with a decrease in the final grades in ELA, math, and social studies. There are two possible explanations for this finding. One is that

the services may not have reached a sufficient level such that an impact can be seen in the form of an improved academic outcome. This may suggest that there are specific thresholds that need to be reached in order for a service to have the desired or intended effect on an outcome. Another potential reason for this result may be found in the context of resilience theory. Resilience has been defined in terms of a specific outcome as well as a process whereby resilience can grow or decline over time depending on the interactions taking place between an individual and their environment and between risk and protective factors in an individual's life (Borman & Rachuba, 2001). Therefore, an individual may be resilient at certain times and not at others depending upon the circumstances and relative strength of protective factors compared to risk factors at the given moment. The limitation of having only one year of data is not able to fully capture the process of resilience and subsequently the improvement in outcomes. Future research may consider a longitudinal study that could explore resilience as a process.

Summary of Significant Findings

The findings from this study suggest that overall, variation in service provision is not related to student characteristics. The variation in the number of hours of distinct service types was related to prior year outcomes; specifically, the presence or absence of specific EWIs. However, the students who had an EWI did not necessarily receive a greater number of hours. In looking at the PYD components that are represented by the service types, it appears that students who had an EWI and received significantly more hours of distinct service types than those who did not have an EWI, received more hours of services that were aimed at developing competence and confidence. For students who had an EWI, they received significantly fewer hours of services that were aimed at developing character, connection, and caring and compassion. This may imply that developing competence and confidence is deemed more important or as a

necessary foundation towards developing character, connection, and caring and compassion. Yet, the findings from the multiple regression analyses suggest that providing services that develop confidence, character, and connection are associated with improved outcomes. Moreover, providing more types of services and more hours of services is not related to improved outcomes. Taken together, this could suggest that providing services that develop confidence, character, and connection are associated with a short-term outcome such as improved attendance or improved grades, and services that develop competence, caring and compassion are associated with the more long-term, overall outcome of developing healthy and competent adults. On the other hand, it could be that this model speaks to the complexity associated with risk and protective factors and a student's developmental trajectory and the services provided were not enough to overcome the risks in the students' lives.

Implications for Research and Practice

Practice

This exploratory study could hold substantial practice based implications with regards to building resilience and preventing school dropout. Although there is much research regarding the risk factors for school dropout and on particular interventions based on specific risk factors, the use of risk factors to not only identify students but also drive case planning process and subsequent service delivery may not be the most efficient and effective method. The use of risk factors as a planning tool can be very difficult because it requires the site coordinator to develop rapport and earn the trust of both the student and the family in order to thoroughly assess the presence or absence of risk. This process often takes time. Moreover, as previous research has argued, not all risk is created equally. The impact of a risk factor on an individual student is affected by the developmental level, previous experiences, the number of other risk factors

present, and the protective factors that may be buffering the effects of the risk factor. To put it simply, using risk factors to drive the case planning process can be messy and unpredictable.

As more school systems are implementing early warning systems and EWIs have been found to be more predictive of eventual school dropout than individual risk factors, perhaps CIS could utilize this information in the case planning process. It is important to note that the use of EWIs should not supplant the importance or the need to conduct a thorough assessment of the risk and protective factors that are present in a student's life. However, the findings from this study and from future research could be used to identify service types that show promise in improving specific EWIs or combinations of EWIs to use in the case planning process.

Another important area this study could add to is that of school social work. School social workers are tasked with providing interventions and support that will improve academic outcomes. Furthermore, school social workers are facing increasing pressure to demonstrate the effectiveness of their interventions in improving academic outcomes. The No Child Left Behind Act (NCLB) specifically requires school social workers to use scientific, research-based interventions (Peckover et al., 2013). The Race to the Top grants funded by the U.S. Department of Education requires student achievement to be linked to the evaluation of school personnel, including school social workers (U.S. Department of Education, 2009). Yet, very few social work interventions conducted in schools actually measure their impact on academic performance. A meta-analysis of school social work interventions found that only six of the 32 studies reviewed reported on the impact of the interventions on academic performance (Staudt et al., 2005). The findings from this study could be an initial step towards providing evidence-supported interventions that improve specific academic outcomes. For example, current findings

suggest that providing services that develop confidence, character, and connection is associated with improved academic outcomes.

Research

Perhaps one of the most substantial research implications of this study is the expansive door that has been opened in this area. There is a general consensus among researchers that in order to address the issue of school dropout, programs and interventions must address both the academic and non-academic factors that can impede a student's success in school. Numerous studies that have examined various interventions and strategies and their impact on specific academic outcomes, such as mentoring (DuBois et al., 2011), Check and Connect (Sinclair et al., 2003), service learning (Bridgeland et al., 2008), and tutoring (Hammon et al., 2007) to name a few. However, there are no studies to date that have examined the relationship between services and student outcomes when all of the aforementioned strategies are provided. While the intent of this study was exploratory, the findings suggest there is a modest relationship between services and outcomes that warrants future investigation. This study is a meaningful first step towards understanding what, within the model, is working best, with whom and in what circumstances.

Future research should continue to investigate these relationships with additional affiliates, additional grade levels, and more than one year of services. While the grade level was not significantly associated with most of the findings, the inclusion of elementary level and high school level data would most likely reveal developmental differences between the grade levels. In addition, a longitudinal study would allow for a greater assessment over time and possibly over developmental levels. Another area that warrants future research is the relationship between service sub-types and student outcomes. This study was not able to assess the relationship

between various specific sub-types and student outcomes due to the small sample size in many of the sub-types. Including additional affiliates in future research would allow for this examination.

Future research may also take a qualitative approach which could provide more nuanced information that cannot be gathered in the same manner as a quantitative research design. Developing an understanding of what actually occurs during service provision, the decisions into what services are provided or not, and how other external factors such as school climate impact the site coordinator's ability to provide certain services would be vitally important towards developing a deeper understanding of Level Two services. Another area that has not been explored in the literature is to gather the students' voices of what the services mean to them and how they feel they are beneficial. A constructivist or phenomenological study could provide a better understanding of the contextual factors within and outside of the Level Two services that promote student success.

Strengths and Limitations

Limitations

As with any study, there were several limitations associated with this study. Some of the limitations are from the very nature of using secondary data. In particular, the data used in this study was initially collected and designed for in-house agency use and not for research purposes. Therefore, there are concerns regarding the reliability of the data since there were no research protocols for how the services should be documented and entered into the data management system. While CIS of Central Texas requires all of their site coordinators to enter the services provided into the data management system, some site coordinators were more detailed in their service notes than others. This could have affected how a particular service was coded. In addition, there is also the concern of the completeness of service notes and the timeliness of

documentation such that there were not any duplications or missing service notes. Furthermore, there is the concern that the amount of time that was documented for each service was accurate.

There are numerous unknown factors that could be threats to internal validity in this study. Much research has been done on the impact of school climate and teacher quality on school dropout and none of that information is known for this study. Another factor that was not known was the amount of Level One services that the students received. This could have impacted the actual amount of service a student received, but was not captured in the service notes. In addition, while this study looked at the volume of services, there is nothing known regarding the quality of services that were provided which could affect the outcomes. Finally, the small sample size limited the variation for some of the service types, sub-types, and the promotion/retention outcome variable which in turn, limited the analyses that could be conducted and or limited the interpretability of some results.

Strengths

There are also several strengths to this study. Most notable is the gap in the literature that this study addressed. No previous studies have investigated in what ways the combination of services and dosage of those services impact academic outcomes, and specifically in the context of EWIs.

The introduction of the services literature in Chapter Two posited a particular problem when attempting to evaluate a model that is predicated on individualized services and yet an underlying assumption of a study grounded in the positivist paradigm is the ability to generalize. As previously discussed, CIS model of service delivery is similar to that of the wraparound approach and the systems of care model. The wraparound approach is a process through which specific school and/or community based interventions can be designed, implemented, and

coordinated for children and adolescents with serious emotional and behavioral disorders and their families (Walker & Matarese, 2011). Similar to the wraparound approach, the systems of care model is also a process and is guided by two core values: the system of care must be child-centered and community-based (Stroul & Friedman, 1986). Taken together, these two models share several similar characteristics of the CIS model for Level Two services in that there is a process to identify the needs of the students and their families; however, the services, interventions, and strategies used are individualized and tailored to meet the unique needs of each child.

Farmer (2000) argues that one of the reasons the interventions provided within the systems of care model tend to be complex is because the interventions are expected to be individualized. This presents a predicament when attempting to conduct effectiveness research because "effectiveness research is possible when the intervention can be clearly specified, and its effects can be contrasted with another intervention (or lack of the targeted intervention) in a rigorous design" (Farmer, 2000, p. 637). While the purpose of this study was exploratory and not effectiveness, the issue of commonality as opposed to individualization of services was still present.

What this study offers is the possibility for one to have her cake and eat it too. The use of the broad service types (categories) provided a context to examine the relationships between service provision and student characteristics and prior year outcomes. However, the actual activity and interaction that happens within that service category allows for individualization and the subtle nuances between site coordinators, students, and their families. Of course, there are still issues related to quality of service. But, perhaps the bigger take home point is the use of service types provides the researcher with a way in which to evaluate the use of services on

various outcomes while continuing the site coordinators' practice of thoroughly assessing the strengths and needs of an individual student and developing a case plan that is individualized and culturally and developmentally appropriate.

Another strength of the study and a way to manage the aforementioned predicament is the manner in which the service types were derived. The thematic analysis of the service notes allowed for the examination of themes among the individualized services that were provided to the students. Rather than defining discrete services that were provided, the thematic analysis moved to a higher level of abstraction to arrive at the broad categories (types) of services. Furthermore, the categories were created based upon the site coordinators description of what occurred as opposed to relying on a box that was checked that may or may not have accurately captured what actually occurred. The low usage of the "other" categories also suggests the coding scheme that was developed through the constant-comparison process was consistent with what was provided.

Conclusion

As the nation's largest dropout prevention program in the country, Communities In Schools touches the lives of more than 1.4 children each year. Although a national evaluation and internal end of the year reports suggest the CIS model is working, there is a need to have a deeper understanding of what, within the model, is working best, with whom and in what circumstances. Only by assessing the evidence can further improvements be accomplished and decisions taken about which services, or combinations of services, will work to improve student outcomes. This aim of this study was to address a gap in the literature and develop an increased understanding of Level Two services' impact on student outcomes by investigating the range and intensity of service patterns and how they vary based student outcomes and student

characteristics. While the findings of this study are not intended to be generalizable to the entire dropout prevention field or even CIS itself, the promise of this research lies in creating a foundation from which future studies can be replicated to further this knowledge.

APPENDIX A: SIGNIFICANT RISK FACTORS FOR SCHOOL DROPOUT

Individual Domain

Individual Background Characteristics

- Gender
- Limited English proficiency
- Has a learning disability or emotional disturbance

Early Adult Responsibilities

- High number of work hours
- Parenthood

Social Attitudes, Values, & Behavior

- High-risk peer group
- High-risk social behavior
- Highly socially active outside of school
- Low occupational aspirations

School Performance

- Low achievement
- Retention/over-age for grade

School Engagement

- Poor attendance
- Low educational expectations
- Lack of effort
- Low commitment to school
- No extracurricular participation

School Behavior

- Misbehavior
- Early aggression

Family Domain

Family Background Characteristics

- Low socioeconomic status
- High family mobility
- Low education level of parents
- Large number of siblings
- Not living with both natural parents
- Family disruption

Family Engagement/Commitment to Education

- Low educational expectations
- Sibling has dropped out
- Low contact with school
- Lack of conversations about school

School Domain

School Structure

- Large school size
- Low promoting power

School resources

- High student-teacher ratios
- Lack of additional resources

Student body characteristics

- High concentrations of low-income or minority students

Student body performance

- High proportion of the student body retained
- High percentage of low achievers in math

Supervision and discipline policies and practices

- Zero tolerance discipline policies

School environment

- Negative school environment or climate
- High rates of absenteeism
- High rates of misbehavior, violence, and/or safety problems
- Feeling unsafe at school

Academic policies and practices

- Accountability and high-stakes testing (schools that need the most improvement most likely have the fewest resources to make improvements)
- Increased retention due to high-stakes testing
- High school exit tests
- Lack of relevant high school curriculum
- Involuntary withdrawal through academic and discipline policies

Community Domain

Location and type

Demographic characteristics

- Urban schools
- Located in a western and/or southern state

Environment

- High amount of instability and mobility
- Urban, high poverty areas
- High levels of violence, drug-related crime, and overcrowding
- Low socioeconomic status
- Higher proportions of minorities or those with a large foreign-born population
- High numbers of single-parent households
- High numbers of households with low levels of education
- High unemployment

Note. Excerpted from "*Dropout Risk Factors and Exemplary Programs"* by C. Hammond, D. Linton, J. Smink, & S. Drew, 2007, Clemson, SC: National Dropout Prevention Center, Communities In Schools, Inc.

APPENDIX B: CIS LEVEL TWO SERVICE CATEGORIES USED BY CIS OF CENTRAL TEXAS

Abstinence	Fitness	Peer pressure
Academic skills	Gang awareness	Personal issues
Academics/grades	General discussion groups	Phone calls
After school clubs	General supportive guidance	Pregnancy/reproductive health
Agency referrals	Goal setting	Progress
Anger management	Grades	Provide CIS information to family
Arts & Crafts activities	Guest speaker(s)- motivational	Reading assistance
Assessment	Higher education support	Reading program/Clubs
Attendance	Home visits	Re-assessment
Basic needs/public assistance	Homework clubs	Recreational activities
Behavior	Incentives	Red Ribbon Week Activities
Board games	Information gathering	Relationship skills
Career development activities	Intake	ROPES
Career fairs	Language (ESL LEP)	School supplies assistance
CIS Open House	Leadership training	Science activities
Classroom conduct	Letter to parents	Self-esteem enhancement
Classroom participation	Lunch Activities	Service-learning
College awareness/preparation	Meeting	Social & communication skills
College preparation	Mental health referrals	Sports
College test application	Mentoring	Sports activities
Conflict resolution	Newsletters/flyers	Staffing
Consultation	Ninth grade transition	Study skills activities
Coping skills	Nutrition/eating habits	Substance abuse
Counseling	On the job training	Suicide prevention
Creative writing	Other health & human service linkage	Team building activities
Crisis intervention	Parent conferences	Technology activities
Cutting/self-mutilation	Parent/Family events and activities	Tutoring
Drug & alcohol abuse	Parent orientation	Tutoring- English
Employment skills training	Parent visit	Tutoring- Math
Encouragement/reminders to attend	Parenting classes/life skills	Tutoring- Science
Family conflict/emotional crisis	Peer mediation	Tutoring- Social studies
Field trips		Weight issues

APPENDIX C: SUMMARY OF EVIDENCE FOR CATEGORIES: PILOT STUDY

Category	Findings from Study	Evidence from Literature or Communities In Schools	Decision Rule
Academic support	• Demonstrated/discussed reading and thinking skills • Worked on math skills • Worked on math assignment • Worked on Reading Counts • Students received academic support and homework help • Helped student with math test corrections • Hung posters and worked on essay • Met with student and teacher to get student's makeup work and test preparation assignment • Started making and painting egg multiplication game • Assisted student in completing science worksheet provided by classroom teacher • Student and staff discussed grades, we went into the system and printed out each progress assessment • Reviewed grades with student and discussed which class we would be focusing on. Student struggles with reading counts for English class. We went onto Lexile.com to pick out a book that interested the student • CIS staff and student reviewed her grades and came up with a plan to raise her math one point to passing	• Problem-solving conversations about progress in school and relationship between school completion and student's regular participation in school results in improved school outcomes (Sinclair, Christenson, & Thurlow, 2005)	• Assist student with school work or homework • Discuss school work, grades, and/or performance in school with student • Discuss study strategies with student
Basic health and human services	• School supplies • Went to Neighbors Helping Neighbors to find a new pair of shoes because hers were too small • Students sat down to eat a nutritious meal from Meals On Wheels as a group • Provided student with clothes so that she would meet the dress code • Christmas Angel Tree, getting wish lists, sizes • Talked about Thanksgiving holiday assistance for his family. • CIS staff, student, parent and grade level counselor met to discuss a health concern around the student. After the discussion the parent agreed to take her daughter to the doctor and follow up with the school then.	• Helping students deal with barriers that interfere with their ability to attend school decreases dropout rate (Dynarski & Gleason, 2002) • CIS 5 Basics: A safe place to learn and grow; and, A healthy start and a healthy future	• Provide basic health and human service needs to student and/or parent such as clothing, food, utility assistance, housing assistance, medical assistance, or holiday assistance

Behavior modification	• Activity dealing with student's anger and how to recognize physical signs • Talked about his behavior in school • CIS processed that experience with him and he felt that he has been angry lately but is not sure why. CIS began working with him on building his feeling vocabulary and how he feels • The girls discussed how they feel fighting is an age appropriate way to handle conflict with another peer. They said that the main benefit that they get out of fighting is that it gets their aggression out towards the person • Talked about resolving arguments with friends • Sat with student in class to observe his behavior. • Talked about anger management techniques. Started behavior chart for next week in class he is having problems in. Reward for good behavior will be lunch together on Friday and cookies.	• Use of a problem-solving approach where the intention is to promote the acquisition of conflict resolution skills and the capacity to seek solutions rather than a source of blame (Sinclair et al., 2005)	• Use of problem-solving to either address and issue or learn how to apply skills in a situation • Use of an intervention designed to decrease a specific behavior
Check-in	• Check-in • Talked to student in halls • Walk and talk with student about how she is doing • Check-in with student and painted nails • Checked in with student to see how she's doing • Quick check-in with student after break. • Checked in with student after receiving a referral and being in SRC yesterday. • Spoke with student in the hallway. Student spoke about his weekend, which he reported was good	• Students feeling as though there is an adult who cares and available to them and wants them to do their work, attend class regularly, and be on time results in improved school outcomes (Sinclair et al., 2005)	• States it is a check-in within the service note • Conversation occurs outside of CIS classroom or office (such as hallway)
Field trip	• Took the students on a field trip to the University of Texas • No Place for Hate Anti-Bullying Summit at the Texas Capital Building • Took students to tour UT campus, dorms, bowling at Union, lunch on campus, breakfast provided • Spent time at University of Texas to learn more about college life. Toured the Texas Memorial Museum and completed a scavenger hunt about their exhibits. • Field trip to Yellow Bike Project. Student built and took home a bicycle.	• Participation in extracurricular activities is associated with reduced dropout rates (Rumberger, 1995).	• States it is a field trip • States the session took place outside of school or the home • States there was a tour
Goal setting-marketable	• Looked online at Junior Police Academy program with Austin PD. Discussed student's interest in joining next year. Printed	• Having future aspirations is associated with academic success	• Discussion of or employing goal setting

skill	application and had student complete. Discussed interview & job application completion skills • Discussed plans for career fair • Career exploration and guest speaker • Researched what it takes to become a pilot • Talked about future goals and careers she is interested in • Talked about the rest of the school year at impact and how to still achieve her goals • We also discussed his plans for the upcoming year • Discussed appropriate short term goals as well as barriers to success	((Sinclair et al., 2005) • Students who have a perceived ability to succeed academically and a positive attitude toward graduating are more likely to receive their high school diploma (Bradshaw, O'Brennan, & McNeely, 2008) • CIS 5 Basics: A marketable skill to use upon graduation	• Discussion of career fields • Opportunities to explore higher education and/or career fields
Life skills	• Why volunteering is important • Made cards for patients at Dell Children's Hospital • Students and staff learned basics of photography, talked about photography project, and began taking pictures around the school • CIS staff and students discussed their feelings on the number of students using drugs on campus. They feel that is pretty common place and that acceptance of it comes from students seeing people use at home • Discussed helmet wearing • The girls participated in activities that had them say what they thought were healthy and unhealthy relationships. The discussed what they thought were healthy in all forms of relationships not just dating ones • Brought box for student to decorate and use as a 'comfort kit' in times of stress. Student colored box with favorite colors and we brainstormed objects that can be put inside • Student also completed community art project for September - handprint listing personal strengths and goals • Practiced journaling about emotions. Girls picked a specific event that had been causing them pain, upset, trouble etc. identified feelings about it and wrote about it. • Lesson: Resolve the conflict. Purpose: To learn the conflict resolution plan, a template for treating others the way we like to be treated by resolving conflicts in a mutually beneficial way through positive actions	• Fostering the development of life skills needed to overcome obstacles leads to increased resiliency (Masten & Coatsworth, 1998) • Decision-making skills such as, social-emotional problem solving, relationship skills, and responsible decisions about studying and completing assignments have been associated with high school completion (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999) • CIS 5 Basics: A chance to give back to peer and community	• Discussion of or involvement in community service and service learning • Discussion of decision-making skills, healthy behaviors, relationship skills, building of self-efficacy, communication, assertiveness, leadership skills, and social skills building

	• Purpose/goals: Introduce and apply positive actions for managing the resource of talents • Students heard a presentation from a Sheriff about safety and worked on the fire safety posters		
Mentor	• Met with mentor and made holiday crafts • Updated mentor on personal/peer issues • Student and mentor took time looking up books online that were under the students interest range. Student finally found book he was looking for and was very excited • Mentoring Monday with student: fill out what I'm good at/benchmark goals sheet. Talk about Converse shoes. Draw. Talk about hometown and student's brother.	• Mentoring as a component of a dropout prevention program has been found to decrease the dropout rate (Dynarski & Gleason, 2002) • CIS 5 Basics: A one-on-one relationship with a caring adult	• Involvement with mentor
Parent communication	• Spoke with mother about student's involvement in CIS this year • Mom came to the school and expressed concern over some family issues that happened the night before that may be affecting the student • Discussed behavioral incident and suspension with student's uncle • Parent shared concern school does not have information from hospital stay • Met student's mother in main office • Home visit with student's mother to learn more about family • Spoke briefly with student's mother about trauma due to neighbor's suicide.	• Family outreach and increase in constructive communication between home and school is associated with improved school outcomes (Sinclair et al., 2005) • Parent involvement and engagement in a student's academic life is associated with improved academic achievement and school attendance (Bradshaw et al., 2008)	• Contact with a parent or guardian either by phone or in person
Relationship with a caring adult	• Played a game • Ate lunch • Talked with friends about fun stuff to do over the weekend • Played jenga • Made bracelets and colored and talked about our spring breaks • Played basketball • Birthday party for group member whose family was unable to give her one • Students worked on Halloween arts and crafts activities • The student ate lunch in the CIS office, he said things are going well and that he is planning on having a good weekend. • Met again to play games and listen to music, discussed holiday plans	• Students must feel safe, develop good social skills, and be able to form trusting relationships with others in order to be successful in school (Davis & Dupper, 2004). • Attachment to school personnel was found to be the most powerful predictor of school completion (Reio, Marcus, & Sanders-Reio, 2009) • CIS 5 Basics: A one-on-one relationship with a caring adult	• Show of support to student by attending sporting event or other event • Time spent with case manager without a specific lesson noted

	• Went outside to the track for the Diabetes Walk • Boys Basketball game against Dahlstrom		
Supportive counseling	• Family relationship • Talked about family • Conflict at home • The student was upset about an argument at home. He felt frustrated but did not want to hurt himself. CIS staff helped him calm down and return to class • Student shared frustration over poor relationship with parents • Talk about his relationships with his family and the importance of his littlest sister • Meet with student to learn more about her and her family dynamics • Work on relationship with sister and talk about what happened with mom • Having problems with a peer • Talked about healthy friendships • Troubles with peer relationships • Talked about peer conflict, and evaluated the situation • Talked about resolving arguments with friends • Discussed how to support a mourning friend • Interact with student during a crisis • Emergency counseling/meeting with student and mom. Mom and student both visibly upset and crying. Mom has to pay fine over $600 due to student's absences. Made a plan for how to better monitor daily attendance/class attendance	• Helping students overcome personal, family, and social barriers decreases dropout rate (Dynarski & Gleason, 2002) • CIS 5 Basics: A one-on-one relationship with a caring adult	• Counseling provided to student that is not clinical or therapy in nature
Teacher communication and staffing	• Staffed the girls in the group • Consultation with Ms x about concerns for student and follow up from the meeting yesterday • Consultation with Mr x and Ms y about student and where he was removed to • Checked in with teacher about student's behavior • Consultation with student's teacher about student's behavior in class. Teacher says that student's behavior is much improved and that she can tell he really wants to do well • Spoke with student's reading teacher regarding student's homework and participation	• Monitoring student progress with a teacher as a component of a program was associated with improved school outcomes (Sinclair et al., 2005)	• Communication with student's teacher, guidance counselor, administrator, or other school staff person • Communication with another professional regarding student's needs or progress

APPENDIX D: CODEBOOK ITERATIONS

Codebook: First Iteration

Category (Code)	Decision Rule
Academic support (01)	• Assist student with school work or homework • Tutoring • Discuss school work, grades, and/or performance in school with student • Discuss study strategies with student • Discuss academic goals with student (not to include academic goals related to higher education)
Basic health and human services (02)	• Provide basic health and human service needs to student and/or parent such as clothing, food, transportation, utility assistance, housing assistance, medical assistance, holiday assistance, or victim assistance • Discussion of the provision of basic health and human services needs with student and/or parent
Behavioral intervention (03)	• Use of problem-solving to either address an issue or learn how to apply skills in a situation • Use of an intervention designed to decrease or increase a specific behavior • Discussion of behavior (positive or negative) in school, home, or community • Anger management and conflict resolution

Check-in (04)	• States it is a "check-in" within the service note
	  • As written, appears brief in nature
	  • Does not include additional discussion with student such as a lesson or topic
	  • "Check-in" is not the beginning portion of a lengthier meeting or discussion with student

Goal setting, college preparation, and career exploration (05)	• Discussion of or employing goal setting (other than immediate academic goals) • Discussion of career fields and higher education • Opportunities to explore higher education and/or career fields to include field trips to colleges, universities, or places of employment
Life/Social skills (06)	• Discussion of or involvement in community service and service learning • Leadership training • Healthy behaviors and health education to include pregnancy prevention • Discussion of decision-making skills, relationship skills, building of self-efficacy, communication skills, assertiveness skills, and social skills building • Social-emotional learning
Mentoring (07)	• Involvement with mentor • Meetings, either individually or in group, with mentor
Family engagement (08)	• Contact with a parent or guardian either by phone or in person • Parent/family involvement • Parent education/workshops • Family events/celebration
Supportive counseling (09)	• Counseling provided to student that is not clinical or therapy in nature • Processing events or situations in a student's life • Crisis counseling
Consultation, staffing, and teacher communication (10)	• Communication with student's teacher, guidance counselor, administrator, or other school staff person regarding student's needs or progress • Communication with another professional regarding student's needs or progress

Enrichment and motivation (11)	• Participation in arts, crafts, music, or dance • Participation in recreation, sports, or clubs • Field trips (other than higher education or career exploration) • Awards and recognition ceremonies/events

Codebook: Second Iteration

Category (Code)	Decision Rule
Academic support	
1.1	• Assist student with school work or homework • Tutoring • Discuss study strategies with student
1.2	• Discuss school work, grades, and/or performance in school with student
1.3	• Discuss academic goals with student (not to include academic goals related to higher education)
Basic health and human services	
2.1	• Provide basic health and human service needs to student and/or parent such as clothing, food, transportation, utility assistance, housing assistance, medical assistance, holiday assistance, school supplies, or victim assistance
2.2	• Discussion of the provision of basic health and human services needs with student and/or parent
Behavior intervention/modification	
3.1	• Use of problem-solving to either address an issue or learn how to apply skills in a situation • Discuss or use of an intervention designed to decrease or increase a specific behavior
3.2	• Discussion of behavior (positive or negative) in school, home, or community • Discuss the use or lack thereof of anger management skills and techniques • Discuss the use or lack thereof conflict resolution skills and techniques (not to include conflict with peers)
Check-in	

4	• States it is a "check-in" within the service note
	  • As written, appears brief in nature
	  • Does not include additional discussion with student such as a lesson or topic
	  • "Check-in" is not the beginning portion of a lengthier meeting or discussion with student

Goal setting, college preparation, and career exploration	
5.1	• Discussion of or employing goal setting (other than immediate academic goals)
5.2	• Discussion of career fields and higher education • Opportunities to explore higher education and/or career fields to include field trips to colleges, universities, or places of employment
Life/Social skills	
6.1	• Discussion of or involvement in community service and service learning
6.2	• Discussion of leadership skills • Participation in leadership training activities or leadership skill development
6.3	• Discussion of healthy behaviors and health education to include pregnancy prevention and substance abuse prevention
6.4	• Discussion of relationship skills ○ Discussion related to knowledge and skill building and skill development
6.5	• Discussion of decision-making skills, communication skills, and or assertiveness skills ○ Discussion related to knowledge and skill building and skill development
6.6	• Discussion of social-emotional learning such as self awareness, social awareness, emotional regulation, etc ○ Discussion related to knowledge and skill building and skill development
6.7	• Discussion of or intervening in peer social relationships • Engagement in peer mediation

	• Discussion of conflict resolution techniques with peers
6.8	• Other social skills building o Discussion related to knowledge and skill building and skill development
Mentoring	
7	• Involvement with mentor • Meetings, either individually or in group, with mentor
Family engagement	
8	• Contact with a parent or guardian either by phone or in person • Parent/family involvement • Parent education/workshops • Family events/celebration
Supportive counseling	
9.1	• Counseling provided to student that is not clinical or therapy in nature • Processing events or situations in a student's life
9.2	• Crisis counseling
Consultation, staffing, and teacher communication	
10	• Communication with student's teacher, guidance counselor, administrator, or other school staff person regarding student's needs or progress • Communication with another professional regarding student's needs or progress
Enrichment and motivation	
11.1	• Participation in arts, crafts, music, or dance • Participation in recreation, sports, or clubs o Must be the primary focus of the activity and not the context for another activity
11.2	• Field trips (other than higher education or career exploration)
11.3	• Awards and recognition ceremonies/events
Assessment and Orientation	
12	• Conduct assessment or intake into the program • Provide orientation or general overview of the program
Other	
13	• Discussion or participation in an activity that is not listed above

Codebook: Third Iteration

Category (Code)	Decision Rule
Academic support	
1.1	• Assist student with school work or homework • Tutoring • Discuss study strategies with student
1.2	• Discuss school work, grades, and/or performance in school with student
1.3	• Discuss academic goals with student (not to include academic goals related to higher education) o Academic goals related to grades, attendance, or course performance
1.4	• Other activities or discussion related to academic support
Basic health and human services	
2.1	• Provide basic health and human service needs to student and/or parent such as clothing, food, transportation, utility assistance, housing assistance, medical assistance, holiday assistance, school supplies, or victim assistance
2.2	• Discussion of the provision of basic health and human services needs with student and/or parent
2.3	• Other activities or discussion related to basic health and human service needs
Behavior intervention/modification	
3.1	• Use of problem-solving to either address an issue or learn how to apply skills in a situation • Discuss or use of an intervention designed to decrease or increase a specific behavior
3.2	• Discussion of behavior (positive or negative) in school, home, or community • Discuss the use or lack thereof of anger management skills and techniques • Discuss the use or lack thereof conflict resolution skills and techniques (not to include conflict with peers)
3.3	• Other activities or discussion related to behavior intervention or modification
Check-in	
4	• States it is a "check-in" within the service note o As written, appears brief in nature o Does not include additional discussion with student such as a lesson or topic o "Check-in" is not the beginning portion of a lengthier meeting or discussion with student
Goal setting, college preparation, and career exploration	
5.1	• Discussion of or employing goal setting (other than immediate academic goals)
5.2	• Discussion of career fields and higher education • Opportunities to explore higher education and/or career fields to include field trips to colleges, universities, or places of employment
5.3	• Other activities or discussion related to goal setting (other than immediate academic goals), college preparation, and career exploration
Life/Social skills	
6.1	• Discussion of or involvement in community service and service learning
6.2	• Discussion of leadership skills • Participation in leadership training activities or leadership skill development
6.3	• Discussion of healthy behaviors and health education to include pregnancy prevention and substance abuse prevention • Participation in activities related to healthy behaviors and health education
6.4	• Discussion of relationship skills o Discussion related to knowledge and skill building and skill development

	• Participation in activities related to relationship skills
6.5	• Discussion of decision-making skills, communication skills, and or assertiveness skills ○ Discussion related to knowledge and skill building and skill development • Participation in activities related to decision-making skills, communication skills, and or assertiveness skills
6.6	• Discussion of social-emotional learning such as self awareness, social awareness, emotional regulation, etc ○ Discussion related to knowledge and skill building and skill development • Participation in activities related to social-emotional learning
6.7	• Discussion of or intervening in peer social relationships • Engagement in peer mediation • Discussion of conflict resolution techniques with peers
6.8	• Other social skills building ○ Discussion related to knowledge and skill building and skill development
Mentoring	
7	• Involvement with mentor • Meetings, either individually or in group, with mentor
Family engagement	
8.1	• Contact with a parent or guardian either by phone or in person
8.2	• Parent/family involvement • Parent education/workshops • Family events/celebration
8.3	• Mailings or emails to parents/guardian
8.4	• Other activities related to family engagement
Supportive counseling	
9.1	• Counseling provided to student that is not clinical or therapy in nature • Processing events or situations in a student's life
9.2	• Crisis counseling
9.3	• Counseling related to family relationships, issues, or concerns
9.4	• Other discussion or supportive counseling activities
Consultation, staffing, and teacher communication	
10	• Communication with student's teacher, guidance counselor, administrator, or other school staff person regarding student's needs or progress • Communication with another professional regarding student's needs or progress
Enrichment and motivation	
11.1	• Participation in arts, crafts, music, or dance • Participation in recreation, sports, or clubs ○ Must be the primary focus of the activity and not the context for another activity
11.2	• Field trips (other than higher education or career exploration)
11.3	• Awards and recognition ceremonies/events
11.4	• Other enrichment and motivation activities
Assessment and Orientation	
12	• Conduct assessment or intake into the program • Provide orientation or general overview of the program
Other	
13	• Discussion or participation in an activity that is not listed above

APPENDIX E: FREQUENCY TABLES OF SERVICE TYPES AND SERVICE SUB-TYPES

Academic Support

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	132	30.2	30.2	9.50	2	.5	87.6
.25	18	4.1	34.3	9.75	1	.2	87.9
.50	17	3.9	38.2	10.00	2	.5	88.3
.75	10	2.3	40.5	10.50	1	.2	88.6
1.00	38	8.7	49.2	11.00	2	.5	89.0
1.25	8	1.8	51.0	11.25	2	.5	89.5
1.40	1	.2	51.3	11.75	3	.7	90.2
1.50	20	4.6	55.8	12.00	3	.7	90.8
1.75	7	1.6	57.4	12.25	2	.5	91.3
2.00	14	3.2	60.6	12.50	2	.5	91.8
2.25	1	.2	60.9	13.25	1	.2	92.0
2.50	4	.9	61.8	13.50	3	.7	92.7
2.75	6	1.4	63.2	13.75	1	.2	92.9
3.00	18	4.1	67.3	14.00	2	.5	93.4
3.25	2	.5	67.7	14.25	1	.2	93.6
3.50	6	1.4	69.1	14.75	1	.2	93.8
3.75	2	.5	69.6	15.00	2	.5	94.3
4.00	16	3.7	73.2	15.25	1	.2	94.5
4.25	3	.7	73.9	16.25	1	.2	94.7
4.50	7	1.6	75.5	16.50	2	.5	95.2
4.75	2	.5	76.0	17.25	1	.2	95.4
5.00	4	.9	76.9	17.50	4	.9	96.3
5.25	4	.9	77.8	18.75	1	.2	96.6
5.50	3	.7	78.5	20.00	1	.2	96.8
5.75	2	.5	78.9	21.25	1	.2	97.0
6.00	4	.9	79.9	21.50	1	.2	97.3
6.25	3	.7	80.5	21.75	1	.2	97.5
6.50	3	.7	81.2	22.25	1	.2	97.7
7.00	4	.9	82.2	22.50	1	.2	97.9
7.25	3	.7	82.8	23.50	1	.2	98.2
7.50	4	.9	83.8	26.25	1	.2	98.4
7.75	1	.2	84.0	26.75	1	.2	98.6
8.00	4	.9	84.9	28.25	1	.2	98.9
8.25	1	.2	85.1	30.50	1	.2	99.1
8.50	3	.7	85.8	31.50	1	.2	99.3
8.75	4	.9	86.7	32.00	1	.2	99.5
9.00	1	.2	87.0	38.25	1	.2	99.8
9.25	1	.2	87.2	40.50	1	.2	100.0

Academic Support: Tutoring or Assistance with School Work

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	267	61.1	61.1	8.75	2	.5	92.0
.25	1	.2	61.3	9.00	1	.2	92.2
.50	8	1.8	63.2	9.25	1	.2	92.4
.75	6	1.4	64.5	9.50	1	.2	92.7
1.00	31	7.1	71.6	10.00	2	.5	93.1
1.25	1	.2	71.9	10.50	2	.5	93.6
1.50	8	1.8	73.7	11.00	1	.2	93.8
2.00	17	3.9	77.6	11.75	1	.2	94.1
2.25	1	.2	77.8	12.00	1	.2	94.3
2.50	3	.7	78.5	12.50	1	.2	94.5
2.75	3	.7	79.2	13.00	1	.2	94.7
3.00	7	1.6	80.8	13.50	2	.5	95.2
3.50	6	1.4	82.2	14.00	1	.2	95.4
4.00	10	2.3	84.4	14.25	1	.2	95.7
4.25	4	.9	85.4	15.50	1	.2	95.9
4.50	3	.7	86.0	16.00	3	.7	96.6
4.75	1	.2	86.3	17.25	2	.5	97.0
5.00	3	.7	87.0	17.50	1	.2	97.3
5.25	2	.5	87.4	19.50	1	.2	97.5
5.50	2	.5	87.9	21.00	1	.2	97.7
5.75	2	.5	88.3	21.25	1	.2	97.9
6.25	3	.7	89.0	21.50	1	.2	98.2
6.50	1	.2	89.2	22.75	1	.2	98.4
6.75	3	.7	89.9	23.50	2	.5	98.9
7.00	2	.5	90.4	30.00	1	.2	99.1
7.25	1	.2	90.6	31.25	1	.2	99.3
7.50	1	.2	90.8	32.00	1	.2	99.5
7.75	1	.2	91.1	33.50	1	.2	99.8
8.50	2	.5	91.5	36.50	1	.2	100.0

Academic Support: Discussion of Grades or School Performance

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	267	61.1	61.1	3.50	5	1.1	94.7
.25	14	3.2	64.3	3.75	2	.5	95.2
.50	12	2.7	67.0	4.00	5	1.1	96.3
.75	18	4.1	71.2	4.25	2	.5	96.8
1.00	34	7.8	78.9	4.50	3	.7	97.5
1.25	7	1.6	80.5	5.00	4	.9	98.4
1.50	13	3.0	83.5	5.50	1	.2	98.6
1.75	6	1.4	84.9	6.50	1	.2	98.9
2.00	12	2.7	87.6	7.00	1	.2	99.1
2.25	6	1.4	89.0	7.25	1	.2	99.3
2.50	4	.9	89.9	7.50	1	.2	99.5
2.75	4	.9	90.8	7.75	1	.2	99.8
3.00	7	1.6	92.4	10.00	1	.2	100.0
3.25	5	1.1	93.6				

Academic Support: Academic Goal Setting

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	366	83.8	83.8	1.75	2	.5	96.8
.25	8	1.8	85.6	2.00	8	1.8	98.6
.50	14	3.2	88.8	2.25	1	.2	98.9
.75	11	2.5	91.3	2.50	1	.2	99.1
1.00	17	3.9	95.2	3.50	1	.2	99.3
1.25	2	.5	95.7	4.00	2	.5	99.8
1.50	3	.7	96.3	5.00	1	.2	100.0

Academic Support: Other

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	293	67.0	67.0	3.75	1	.2	95.9
.25	30	6.9	73.9	4.00	2	.5	96.3
.50	16	3.7	77.6	5.00	2	.5	96.8
.75	5	1.1	78.7	5.25	3	.7	97.5
1.00	41	9.4	88.1	6.00	2	.5	97.9
1.25	2	.5	88.6	6.25	2	.5	98.4
1.40	1	.2	88.8	6.75	1	.2	98.6
1.50	8	1.8	90.6	7.00	1	.2	98.9
1.75	1	.2	90.8	9.00	1	.2	99.1
2.00	14	3.2	94.1	9.50	1	.2	99.3
2.25	1	.2	94.3	10.00	1	.2	99.5
3.00	3	.7	95.0	11.25	1	.2	99.8
3.25	1	.2	95.2	12.00	1	.2	100.0
3.50	2	.5	95.7				

Basic Health and Human Services

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	237	54.2	54.2	5.75	2	.5	92.7
.25	36	8.2	62.5	6.25	3	.7	93.4
.50	32	7.3	69.8	6.75	1	.2	93.6
.75	15	3.4	73.2	7.00	2	.5	94.1
1.00	15	3.4	76.7	7.25	1	.2	94.3
1.25	7	1.6	78.3	7.50	3	.7	95.0
1.50	6	1.4	79.6	7.75	1	.2	95.2
1.75	9	2.1	81.7	8.00	3	.7	95.9
2.00	2	.5	82.2	8.25	1	.2	96.1
2.25	2	.5	82.6	8.75	1	.2	96.3
2.50	5	1.1	83.8	9.50	1	.2	96.6
2.75	4	.9	84.7	9.75	1	.2	96.8
3.00	3	.7	85.4	10.00	1	.2	97.0
3.25	2	.5	85.8	10.25	3	.7	97.7
3.50	3	.7	86.5	10.50	3	.7	98.4
3.75	4	.9	87.4	14.00	1	.2	98.6
4.00	5	1.1	88.6	15.75	1	.2	98.9
4.25	3	.7	89.2	18.75	1	.2	99.1
4.50	2	.5	89.7	20.25	1	.2	99.3
4.75	3	.7	90.4	22.50	1	.2	99.5
5.00	7	1.6	92.0	25.25	1	.2	99.8
5.25	1	.2	92.2	26.25	1	.2	100.0

Basic Health and Human Services: Provision of a Basic Health and Human Services

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	268	61.3	61.3	6.25	4	.9	94.1
.25	23	5.3	66.6	7.00	3	.7	94.7
.50	25	5.7	72.3	7.25	1	.2	95.0
.75	15	3.4	75.7	7.50	1	.2	95.2
1.00	13	3.0	78.7	7.75	1	.2	95.4
1.25	7	1.6	80.3	8.00	3	.7	96.1
1.50	7	1.6	81.9	8.25	1	.2	96.3
1.75	6	1.4	83.3	9.25	1	.2	96.6
2.00	6	1.4	84.7	9.50	1	.2	96.8
2.25	3	.7	85.4	9.75	1	.2	97.0
2.50	4	.9	86.3	10.00	1	.2	97.3
2.75	2	.5	86.7	10.25	2	.5	97.7
3.00	3	.7	87.4	10.50	3	.7	98.4
3.25	4	.9	88.3	14.00	1	.2	98.6
3.75	5	1.1	89.5	15.75	1	.2	98.9
4.00	7	1.6	91.1	18.75	1	.2	99.1
4.25	1	.2	91.3	20.25	1	.2	99.3
4.75	1	.2	91.5	22.50	1	.2	99.5
5.00	4	.9	92.4	25.25	1	.2	99.8
5.75	3	.7	93.1	26.25	1	.2	100.0

Basic Health and Human Services: Discussion of the Provision of a Basic Health and Human Services

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	353	80.8	80.8	1.50	1	.2	98.2
.25	32	7.3	88.1	1.75	1	.2	98.4
.50	15	3.4	91.5	2.00	1	.2	98.6
.75	8	1.8	93.4	2.25	2	.5	99.1
1.00	17	3.9	97.3	2.50	3	.7	99.8
1.25	3	.7	97.9	2.75	1	.2	100.0

Behavior Intervention/Modification

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	342	78.3	78.3	3.50	1	.2	97.0
.25	5	1.1	79.4	3.75	1	.2	97.3
.50	8	1.8	81.2	4.00	3	.7	97.9
.75	18	4.1	85.4	4.25	1	.2	98.2
1.00	21	4.8	90.2	4.50	3	.7	98.9
1.25	6	1.4	91.5	5.25	1	.2	99.1
1.50	7	1.6	93.1	5.50	1	.2	99.3
2.00	8	1.8	95.0	5.75	1	.2	99.5
2.50	2	.5	95.4	6.00	1	.2	99.8
2.75	1	.2	95.7	10.00	1	.2	100.0
3.00	5	1.1	96.8				

Behavior Intervention/Modification: Problem Solving or an Intervention Designed to Address a Specific Behavior

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	419	95.9	95.9	2.00	2	.5	99.3
.50	1	.2	96.1	3.00	1	.2	99.5
.75	4	.9	97.0	4.00	1	.2	99.8
1.00	6	1.4	98.4	4.50	1	.2	100.0
1.50	2	.5	98.9				

Behavior Intervention/Modification: Discussion of Their Behavior, Anger Management Skills, or Conflict Resolution Skills

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	349	79.9	79.9	3.50	1	.2	97.5
.25	6	1.4	81.2	3.75	1	.2	97.7
.50	9	2.1	83.3	4.00	3	.7	98.4
.75	17	3.9	87.2	4.25	2	.5	98.9
1.00	20	4.6	91.8	4.50	1	.2	99.1
1.25	7	1.6	93.4	4.75	1	.2	99.3
1.50	4	.9	94.3	5.00	1	.2	99.5
2.00	7	1.6	95.9	5.50	1	.2	99.8
2.50	2	.5	96.3	6.00	1	.2	100.0
3.00	4	.9	97.3				

Check-in

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	256	58.6	58.6	2.75	1	.2	97.3
.25	50	11.4	70.0	3.25	3	.7	97.9
.50	29	6.6	76.7	4.00	1	.2	98.2
.75	16	3.7	80.3	4.75	1	.2	98.4
1.00	17	3.9	84.2	5.25	1	.2	98.6
1.25	13	3.0	87.2	5.75	1	.2	98.9
1.50	8	1.8	89.0	6.25	1	.2	99.1
1.75	8	1.8	90.8	7.25	1	.2	99.3
2.00	22	5.0	95.9	7.75	1	.2	99.5
2.25	3	.7	96.6	8.50	1	.2	99.8
2.50	2	.5	97.0	8.75	1	.2	100.0

Goal Setting, College Preparation, and Career Exploration

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	133	30.4	30.4	8.25	1	.2	89.7
.25	41	9.4	39.8	8.75	6	1.4	91.1
.50	21	4.8	44.6	9.00	3	.7	91.8
.75	16	3.7	48.3	9.25	1	.2	92.0
1.00	45	10.3	58.6	9.75	1	.2	92.2
1.25	15	3.4	62.0	10.00	1	.2	92.4
1.50	15	3.4	65.4	10.25	2	.5	92.9
1.75	3	.7	66.1	10.50	2	.5	93.4
2.00	17	3.9	70.0	12.00	2	.5	93.8
2.25	4	.9	70.9	12.50	1	.2	94.1
2.50	5	1.1	72.1	12.75	1	.2	94.3
2.75	1	.2	72.3	13.00	1	.2	94.5
3.00	23	5.3	77.6	13.50	1	.2	94.7
3.25	5	1.1	78.7	13.75	2	.5	95.2
3.50	2	.5	79.2	14.00	1	.2	95.4
3.75	1	.2	79.4	15.00	2	.5	95.9
4.00	7	1.6	81.0	15.50	1	.2	96.1
4.25	2	.5	81.5	16.75	1	.2	96.3
4.50	7	1.6	83.1	17.00	3	.7	97.0
4.75	1	.2	83.3	19.50	1	.2	97.3
5.00	5	1.1	84.4	21.00	1	.2	97.5
5.25	2	.5	84.9	21.50	1	.2	97.7
5.50	3	.7	85.6	22.00	1	.2	97.9
5.75	1	.2	85.8	24.00	1	.2	98.2
6.00	3	.7	86.5	25.00	1	.2	98.4
6.25	1	.2	86.7	25.50	1	.2	98.6
6.50	3	.7	87.4	31.00	1	.2	98.9
7.00	3	.7	88.1	34.00	1	.2	99.1
7.25	3	.7	88.8	35.00	1	.2	99.3
7.75	1	.2	89.0	58.50	1	.2	99.5
8.00	2	.5	89.5	66.75	1	.2	99.8
				69.75	1	.2	100.0

Goal Setting, College Preparation, and Career Exploration: Goal Setting

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	253	57.9	57.9	2.25	1	.2	94.1
.25	19	4.3	62.2	2.50	3	.7	94.7
.50	12	2.7	65.0	2.75	3	.7	95.4
.75	27	6.2	71.2	3.00	6	1.4	96.8
1.00	52	11.9	83.1	4.00	3	.7	97.5
1.25	12	2.7	85.8	4.75	1	.2	97.7
1.50	10	2.3	88.1	5.25	2	.5	98.2
1.75	11	2.5	90.6	6.25	8	1.8	100.0
2.00	14	3.2	93.8				

Goal Setting, College Preparation, and Career Exploration: Discussion of Career Fields and College Exploration

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	200	45.8	45.8	9.25	1	.2	92.4
.25	82	18.8	64.5	9.50	1	.2	92.7
.50	10	2.3	66.8	10.00	1	.2	92.9
.75	4	.9	67.7	10.25	1	.2	93.1
1.00	21	4.8	72.5	10.50	2	.5	93.6
1.25	6	1.4	73.9	10.75	2	.5	94.1
1.50	1	.2	74.1	11.00	1	.2	94.3
1.75	2	.5	74.6	11.25	1	.2	94.5
2.00	4	.9	75.5	11.75	1	.2	94.7
2.25	3	.7	76.2	12.00	1	.2	95.0
2.50	11	2.5	78.7	12.50	1	.2	95.2
2.75	1	.2	78.9	13.50	1	.2	95.4
3.00	17	3.9	82.8	13.75	1	.2	95.7
3.25	4	.9	83.8	15.00	1	.2	95.9
3.50	3	.7	84.4	15.50	1	.2	96.1
4.00	2	.5	84.9	16.25	1	.2	96.3
4.25	3	.7	85.6	16.75	1	.2	96.6
4.50	6	1.4	87.0	17.00	2	.5	97.0
4.75	1	.2	87.2	19.50	1	.2	97.3
5.00	5	1.1	88.3	21.00	1	.2	97.5
5.50	1	.2	88.6	21.50	1	.2	97.7
5.75	2	.5	89.0	22.00	1	.2	97.9
6.00	1	.2	89.2	22.50	2	.5	98.4
6.50	4	.9	90.2	25.50	1	.2	98.6
6.75	1	.2	90.4	31.00	1	.2	98.9
7.00	1	.2	90.6	34.00	1	.2	99.1
7.25	1	.2	90.8	35.00	1	.2	99.3
7.50	1	.2	91.1	58.50	1	.2	99.5
8.00	2	.5	91.5	64.50	1	.2	99.8
8.75	2	.5	92.0	66.75	1	.2	100.0
9.00	1	.2	92.2				

Life/Social Skills

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	65	14.9	14.9	11.50	3	.7	79.6
.25	3	.7	15.6	11.75	3	.7	80.3
.50	9	2.1	17.6	12.00	5	1.1	81.5
.75	6	1.4	19.0	12.25	2	.5	81.9
1.00	17	3.9	22.9	12.50	6	1.4	83.3
1.25	4	.9	23.8	12.75	2	.5	83.8
1.50	9	2.1	25.9	13.00	12	2.7	86.5
1.75	3	.7	26.5	13.75	2	.5	87.0
2.00	12	2.7	29.3	14.00	1	.2	87.2
2.25	4	.9	30.2	14.25	3	.7	87.9
2.50	10	2.3	32.5	14.50	4	.9	88.8
2.75	3	.7	33.2	15.00	4	.9	89.7
3.00	9	2.1	35.2	15.25	1	.2	89.9
3.25	6	1.4	36.6	15.50	1	.2	90.2
3.50	5	1.1	37.8	15.75	1	.2	90.4
3.75	7	1.6	39.4	16.00	3	.7	91.1
4.00	14	3.2	42.6	16.50	3	.7	91.8
4.25	1	.2	42.8	16.75	1	.2	92.0
4.50	3	.7	43.5	17.25	3	.7	92.7
4.75	5	1.1	44.6	17.50	2	.5	93.1
5.00	16	3.7	48.3	17.75	1	.2	93.4
5.25	6	1.4	49.7	18.00	1	.2	93.6
5.50	7	1.6	51.3	18.50	1	.2	93.8
5.75	3	.7	51.9	19.50	2	.5	94.3
6.00	8	1.8	53.8	19.75	2	.5	94.7
6.25	2	.5	54.2	20.50	1	.2	95.0
6.50	10	2.3	56.5	21.50	1	.2	95.2
6.75	1	.2	56.8	22.00	1	.2	95.4
7.00	12	2.7	59.5	22.50	1	.2	95.7
7.25	2	.5	60.0	23.25	1	.2	95.9
7.50	8	1.8	61.8	23.50	2	.5	96.3
7.75	8	1.8	63.6	24.25	1	.2	96.6
8.00	6	1.4	65.0	25.00	1	.2	96.8
8.25	3	.7	65.7	25.75	1	.2	97.0
8.50	4	.9	66.6	26.00	2	.5	97.5
8.75	2	.5	67.0	27.75	1	.2	97.7
9.00	11	2.5	69.6	28.00	1	.2	97.9
9.25	6	1.4	70.9	29.00	2	.5	98.4
9.50	1	.2	71.2	31.00	1	.2	98.6
9.75	1	.2	71.4	34.25	1	.2	98.9
10.00	7	1.6	73.0	35.50	1	.2	99.1
10.25	2	.5	73.5	35.75	1	.2	99.3
10.50	9	2.1	75.5	36.50	1	.2	99.5
10.75	4	.9	76.4	41.75	1	.2	99.8
11.00	6	1.4	77.8	44.75	1	.2	100.0
11.25	5	1.1	78.9				

Life/Social Skills: Community Service

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	314	71.9	71.9	4.50	1	.2	94.5
.25	2	.5	72.3	5.00	4	.9	95.4
.50	13	3.0	75.3	5.25	1	.2	95.7
.75	8	1.8	77.1	6.00	2	.5	96.1
1.00	19	4.3	81.5	6.75	1	.2	96.3
1.25	1	.2	81.7	7.00	3	.7	97.0
1.50	6	1.4	83.1	7.25	1	.2	97.3
1.75	4	.9	84.0	7.75	1	.2	97.5
2.00	12	2.7	86.7	8.00	1	.2	97.7
2.50	9	2.1	88.8	8.50	2	.5	98.2
2.75	1	.2	89.0	9.00	1	.2	98.4
3.00	10	2.3	91.3	9.25	1	.2	98.6
3.25	3	.7	92.0	9.50	1	.2	98.9
3.50	1	.2	92.2	10.00	3	.7	99.5
3.75	2	.5	92.7	10.75	1	.2	99.8
4.00	3	.7	93.4	12.00	1	.2	100.0
4.25	4	.9	94.3				

Life/Social Skills: Leadership Skills

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	399	91.3	91.3	2.50	1	.2	97.3
.25	1	.2	91.5	2.75	1	.2	97.5
.50	2	.5	92.0	3.00	2	.5	97.9
.75	4	.9	92.9	3.50	1	.2	98.2
1.00	9	2.1	95.0	3.75	1	.2	98.4
1.25	2	.5	95.4	8.00	3	.7	99.1
1.50	2	.5	95.9	9.50	1	.2	99.3
1.75	2	.5	96.3	13.50	1	.2	99.5
2.00	2	.5	96.8	14.50	2	.5	100.0
2.25	1	.2	97.0				

Life/Social Skills: Healthy Behaviors

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	289	66.1	66.1	4.00	7	1.6	93.6
.25	1	.2	66.4	4.25	3	.7	94.3
.50	13	3.0	69.3	5.00	1	.2	94.5
.75	12	2.7	72.1	5.25	2	.5	95.0
1.00	28	6.4	78.5	5.75	2	.5	95.4
1.25	8	1.8	80.3	6.00	4	.9	96.3
1.50	10	2.3	82.6	7.00	2	.5	96.8
1.75	2	.5	83.1	8.00	2	.5	97.3
2.00	21	4.8	87.9	8.25	1	.2	97.5
2.25	1	.2	88.1	8.50	1	.2	97.7
2.50	1	.2	88.3	9.00	2	.5	98.2
2.75	1	.2	88.6	9.25	1	.2	98.4
3.00	6	1.4	89.9	10.00	2	.5	98.9
3.25	4	.9	90.8	10.50	1	.2	99.1
3.50	1	.2	91.1	11.00	3	.7	99.8
3.75	4	.9	92.0	16.25	1	.2	100.0

Life/Social Skills: Relationship Skills

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	165	37.8	37.8	5.50	2	.5	90.8
.25	1	.2	38.0	5.75	1	.2	91.1
.50	28	6.4	44.4	6.00	6	1.4	92.4
.75	10	2.3	46.7	6.25	2	.5	92.9
1.00	44	10.1	56.8	6.50	2	.5	93.4
1.25	5	1.1	57.9	7.00	5	1.1	94.5
1.50	18	4.1	62.0	7.25	1	.2	94.7
1.75	4	.9	62.9	7.50	2	.5	95.2
2.00	31	7.1	70.0	8.00	5	1.1	96.3
2.25	6	1.4	71.4	9.00	3	.7	97.0
2.50	12	2.7	74.1	9.50	1	.2	97.3
2.75	3	.7	74.8	10.50	2	.5	97.7
3.00	18	4.1	78.9	11.00	2	.5	98.2
3.25	3	.7	79.6	11.50	1	.2	98.4
3.50	15	3.4	83.1	12.00	2	.5	98.9
3.75	2	.5	83.5	12.50	1	.2	99.1
4.00	13	3.0	86.5	13.50	1	.2	99.3
4.25	6	1.4	87.9	16.00	1	.2	99.5
4.50	4	.9	88.8	34.50	1	.2	99.8
5.00	6	1.4	90.2	37.00	1	.2	100.0
5.25	1	.2	90.4				

Life/Social Skills: Decision-making

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	322	73.7	73.7	2.50	5	1.1	95.0
.25	2	.5	74.1	3.00	13	3.0	97.9
.50	12	2.7	76.9	3.50	1	.2	98.2
.75	7	1.6	78.5	4.00	5	1.1	99.3
1.00	38	8.7	87.2	5.00	1	.2	99.5
1.50	7	1.6	88.8	6.25	1	.2	99.8
2.00	21	4.8	93.6	7.00	1	.2	100.0
2.25	1	.2	93.8				

Life/Social Skills: Social-emotional Learning

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	225	51.5	51.5	6.50	1	.2	93.8
.25	2	.5	51.9	6.75	1	.2	94.1
.50	13	3.0	54.9	7.00	2	.5	94.5
.75	11	2.5	57.4	8.00	2	.5	95.0
1.00	29	6.6	64.1	8.50	1	.2	95.2
1.25	4	.9	65.0	9.00	1	.2	95.4
1.50	4	.9	65.9	9.50	2	.5	95.9
1.75	3	.7	66.6	9.75	2	.5	96.3
2.00	31	7.1	73.7	10.50	1	.2	96.6
2.25	5	1.1	74.8	11.00	1	.2	96.8
2.50	5	1.1	76.0	11.25	3	.7	97.5
2.75	5	1.1	77.1	12.00	1	.2	97.7
3.00	25	5.7	82.8	13.50	1	.2	97.9
3.25	2	.5	83.3	14.00	1	.2	98.2
3.50	3	.7	84.0	15.00	1	.2	98.4
3.75	3	.7	84.7	15.50	2	.5	98.9
4.00	16	3.7	88.3	16.00	1	.2	99.1
5.00	10	2.3	90.6	17.00	1	.2	99.3
5.25	3	.7	91.3	20.00	1	.2	99.5
5.50	2	.5	91.8	21.50	1	.2	99.8
5.75	1	.2	92.0	23.00	1	.2	100.0
6.00	7	1.6	93.6				

Life/Social Skills: Peer Social Relationships

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	309	70.7	70.7	3.25	1	.2	96.1
.25	4	.9	71.6	3.50	4	.9	97.0
.50	17	3.9	75.5	3.75	1	.2	97.3
.75	6	1.4	76.9	4.00	4	.9	98.2
1.00	38	8.7	85.6	4.75	1	.2	98.4
1.25	5	1.1	86.7	6.00	3	.7	99.1
1.50	6	1.4	88.1	6.75	1	.2	99.3
2.00	14	3.2	91.3	8.00	1	.2	99.5
2.25	1	.2	91.5	9.00	1	.2	99.8
2.50	5	1.1	92.7	12.75	1	.2	100.0
3.00	14	3.2	95.9				

Life/Social Skills: Other

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	383	87.6	87.6	3.00	1	.2	97.7
.50	7	1.6	89.2	3.50	3	.7	98.4
.75	7	1.6	90.8	4.00	3	.7	99.1
1.00	14	3.2	94.1	4.50	1	.2	99.3
1.50	4	.9	95.0	5.50	1	.2	99.5
2.00	6	1.4	96.3	6.25	1	.2	99.8
2.50	5	1.1	97.5	6.50	1	.2	100.0

Mentoring

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	346	79.2	79.2	7.75	1	.2	92.4
.25	5	1.1	80.3	8.00	6	1.4	93.8
.50	2	.5	80.8	9.50	2	.5	94.3
1.00	5	1.1	81.9	10.00	2	.5	94.7
1.25	3	.7	82.6	11.00	1	.2	95.0
1.50	4	.9	83.5	11.25	1	.2	95.2
1.75	1	.2	83.8	11.50	1	.2	95.4
2.00	6	1.4	85.1	12.00	1	.2	95.7
2.50	1	.2	85.4	12.25	1	.2	95.9
3.00	4	.9	86.3	12.50	2	.5	96.3
3.25	2	.5	86.7	13.00	2	.5	96.8
3.50	1	.2	87.0	13.25	1	.2	97.0
3.75	2	.5	87.4	13.75	1	.2	97.3
4.00	6	1.4	88.8	15.00	3	.7	97.9
4.50	2	.5	89.2	15.50	1	.2	98.2
5.00	6	1.4	90.6	16.00	1	.2	98.4
5.50	1	.2	90.8	16.25	1	.2	98.6
5.75	1	.2	91.1	16.75	1	.2	98.9
6.25	1	.2	91.3	20.00	2	.5	99.3
6.50	1	.2	91.5	59.00	1	.2	99.5
6.75	1	.2	91.8	128.00	1	.2	99.8
7.00	1	.2	92.0	158.00	1	.2	100.0
7.25	1	.2	92.2				

Family Engagement

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	82	18.8	18.8	5.25	3	.7	93.6
.25	72	16.5	35.2	5.50	1	.2	93.8
.50	54	12.4	47.6	5.75	2	.5	94.3
.75	47	10.8	58.4	6.25	2	.5	94.7
1.00	30	6.9	65.2	6.50	5	1.1	95.9
1.25	19	4.3	69.6	7.00	1	.2	96.1
1.50	10	2.3	71.9	7.50	1	.2	96.3
1.75	14	3.2	75.1	8.00	1	.2	96.6
2.00	14	3.2	78.3	8.25	2	.5	97.0
2.25	12	2.7	81.0	8.50	1	.2	97.3
2.50	8	1.8	82.8	9.00	2	.5	97.7
2.75	4	.9	83.8	9.25	1	.2	97.9
3.00	6	1.4	85.1	9.50	1	.2	98.2
3.25	6	1.4	86.5	10.00	2	.5	98.6
3.50	6	1.4	87.9	10.50	1	.2	98.9
3.75	6	1.4	89.2	11.50	1	.2	99.1
4.00	4	.9	90.2	12.25	1	.2	99.3
4.25	5	1.1	91.3	12.75	1	.2	99.5
4.50	4	.9	92.2	14.00	1	.2	99.8
4.75	2	.5	92.7	17.50	1	.2	100.0
5.00	1	.2	92.9				

Family Engagement: Contact with a Parent or Guardian Either by Phone or in Person

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	269	61.6	61.6	3.00	3	.7	95.7
.25	39	8.9	70.5	3.25	1	.2	95.9
.50	32	7.3	77.8	3.50	2	.5	96.3
.75	14	3.2	81.0	3.75	1	.2	96.6
1.00	21	4.8	85.8	4.00	2	.5	97.0
1.25	8	1.8	87.6	4.25	4	.9	97.9
1.50	5	1.1	88.8	5.00	2	.5	98.4
1.75	8	1.8	90.6	5.50	2	.5	98.9
2.00	6	1.4	92.0	5.75	2	.5	99.3
2.25	6	1.4	93.4	6.00	1	.2	99.5
2.50	3	.7	94.1	7.50	1	.2	99.8
2.75	4	.9	95.0	8.00	1	.2	100.0

Family Engagement: Parent/family Involvement in School Meetings or Events

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	348	79.6	79.6	3.50	6	1.4	96.6
.25	3	.7	80.3	3.75	1	.2	96.8
.50	8	1.8	82.2	4.00	1	.2	97.0
.75	2	.5	82.6	4.50	4	.9	97.9
1.00	7	1.6	84.2	4.75	1	.2	98.2
1.25	4	.9	85.1	5.00	1	.2	98.4
1.50	4	.9	86.0	5.25	1	.2	98.6
1.75	2	.5	86.5	5.50	1	.2	98.9
2.00	22	5.0	91.5	6.50	3	.7	99.5
2.25	2	.5	92.0	7.00	1	.2	99.8
2.50	10	2.3	94.3	8.50	1	.2	100.0
3.00	4	.9	95.2				

Family Engagement: Mailings or Emails to the Parent/guardian

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	125	28.6	28.6	1.50	7	1.6	93.8
.25	116	26.5	55.1	1.75	9	2.1	95.9
.50	54	12.4	67.5	2.00	9	2.1	97.9
.75	45	10.3	77.8	2.25	5	1.1	99.1
1.00	55	12.6	90.4	2.50	3	.7	99.8
1.25	8	1.8	92.2	2.75	1	.2	100.0

Supportive Counseling

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	71	16.2	16.2	10.00	7	1.6	80.1
.25	3	.7	16.9	10.25	1	.2	80.3
.50	12	2.7	19.7	10.50	4	.9	81.2
.75	9	2.1	21.7	10.75	4	.9	82.2
1.00	27	6.2	27.9	11.00	2	.5	82.6
1.25	8	1.8	29.7	11.25	2	.5	83.1
1.50	14	3.2	33.0	11.50	3	.7	83.8
1.75	5	1.1	34.1	11.75	4	.9	84.7
2.00	13	3.0	37.1	12.00	6	1.4	86.0
2.25	9	2.1	39.1	12.25	5	1.1	87.2
2.50	7	1.6	40.7	12.50	2	.5	87.6
2.75	6	1.4	42.1	13.00	4	.9	88.6
3.00	14	3.2	45.3	13.50	1	.2	88.8
3.25	10	2.3	47.6	13.75	2	.5	89.2
3.50	5	1.1	48.7	14.00	2	.5	89.7
3.75	6	1.4	50.1	14.25	3	.7	90.4
4.00	14	3.2	53.3	14.50	1	.2	90.6
4.25	5	1.1	54.5	14.75	2	.5	91.1
4.50	5	1.1	55.6	15.00	3	.7	91.8
4.75	8	1.8	57.4	15.25	1	.2	92.0
5.00	7	1.6	59.0	15.50	6	1.4	93.4
5.25	3	.7	59.7	16.00	4	.9	94.3
5.50	8	1.8	61.6	16.50	2	.5	94.7
5.75	4	.9	62.5	16.75	1	.2	95.0
6.00	9	2.1	64.5	17.00	2	.5	95.4
6.25	3	.7	65.2	17.25	1	.2	95.7
6.50	5	1.1	66.4	17.50	2	.5	96.1
6.75	5	1.1	67.5	18.00	3	.7	96.8
7.00	10	2.3	69.8	18.25	1	.2	97.0
7.25	4	.9	70.7	18.75	1	.2	97.3
7.50	1	.2	70.9	19.00	1	.2	97.5
7.75	3	.7	71.6	19.25	2	.5	97.9
8.00	2	.5	72.1	20.25	2	.5	98.4
8.25	7	1.6	73.7	21.00	1	.2	98.6
8.50	3	.7	74.4	22.75	1	.2	98.9
8.75	1	.2	74.6	23.00	1	.2	99.1
9.00	6	1.4	76.0	25.25	1	.2	99.3
9.25	3	.7	76.7	25.50	1	.2	99.5
9.50	3	.7	77.3	28.00	1	.2	99.8
9.75	5	1.1	78.5	52.00	1	.2	100.0

Supportive Counseling: Non-clinical Counseling

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	82	18.8	18.8	8.75	2	.5	80.8
.25	4	.9	19.7	9.00	8	1.8	82.6
.50	17	3.9	23.6	9.25	1	.2	82.8
.75	11	2.5	26.1	9.50	5	1.1	84.0
1.00	25	5.7	31.8	9.75	6	1.4	85.4
1.25	4	.9	32.7	10.00	7	1.6	87.0
1.50	14	3.2	35.9	10.25	2	.5	87.4
1.75	10	2.3	38.2	10.50	2	.5	87.9
2.00	18	4.1	42.3	10.75	7	1.6	89.5
2.25	9	2.1	44.4	11.00	2	.5	89.9
2.50	9	2.1	46.5	11.25	1	.2	90.2
2.75	8	1.8	48.3	11.50	3	.7	90.8
3.00	15	3.4	51.7	11.75	2	.5	91.3
3.25	9	2.1	53.8	12.00	5	1.1	92.4
3.50	3	.7	54.5	12.25	1	.2	92.7
3.75	6	1.4	55.8	13.25	1	.2	92.9
4.00	11	2.5	58.4	13.50	2	.5	93.4
4.25	7	1.6	60.0	13.75	3	.7	94.1
4.50	7	1.6	61.6	14.00	2	.5	94.5
4.75	6	1.4	62.9	14.25	3	.7	95.2
5.00	7	1.6	64.5	14.50	3	.7	95.9
5.25	2	.5	65.0	14.75	1	.2	96.1
5.50	7	1.6	66.6	15.00	3	.7	96.8
5.75	7	1.6	68.2	15.75	2	.5	97.3
6.00	11	2.5	70.7	16.00	1	.2	97.5
6.25	3	.7	71.4	17.25	1	.2	97.7
6.50	2	.5	71.9	17.50	1	.2	97.9
6.75	6	1.4	73.2	18.00	2	.5	98.4
7.00	9	2.1	75.3	18.25	1	.2	98.6
7.25	4	.9	76.2	20.25	1	.2	98.9
7.50	8	1.8	78.0	22.75	2	.5	99.3
7.75	1	.2	78.3	25.50	1	.2	99.5
8.00	2	.5	78.7	27.50	1	.2	99.8
8.25	3	.7	79.4	52.00	1	.2	100.0
8.50	4	.9	80.3				

Supportive Counseling: Crisis Counseling

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	394	90.2	90.2	2.25	1	.2	98.2
.25	3	.7	90.8	2.50	1	.2	98.4
.50	7	1.6	92.4	3.25	1	.2	98.6
.75	2	.5	92.9	3.75	1	.2	98.9
1.00	11	2.5	95.4	4.00	1	.2	99.1
1.25	2	.5	95.9	4.25	1	.2	99.3
1.50	4	.9	96.8	4.50	1	.2	99.5
1.75	1	.2	97.0	5.00	1	.2	99.8
2.00	4	.9	97.9	7.50	1	.2	100.0

Supportive Counseling: Counseling Related to Family Concerns and Relationships

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	282	64.5	64.5	3.75	1	.2	93.6
.25	3	.7	65.2	4.00	8	1.8	95.4
.50	13	3.0	68.2	4.25	1	.2	95.7
.75	18	4.1	72.3	4.50	2	.5	96.1
1.00	33	7.6	79.9	4.75	2	.5	96.6
1.25	5	1.1	81.0	5.00	3	.7	97.3
1.50	6	1.4	82.4	5.25	1	.2	97.5
1.75	7	1.6	84.0	5.50	1	.2	97.7
2.00	16	3.7	87.6	6.00	4	.9	98.6
2.25	3	.7	88.3	6.50	2	.5	99.1
2.50	5	1.1	89.5	8.00	1	.2	99.3
2.75	4	.9	90.4	8.50	1	.2	99.5
3.00	9	2.1	92.4	11.00	1	.2	99.8
3.25	1	.2	92.7	15.00	1	.2	100.0
3.50	3	.7	93.4				

Supportive Counseling: Other

Number of Hours	Frequency	Percent	Cumulative Percent
.00	436	99.8	99.8
.50	1	.2	100.0

Consultation, Staffing, and Teacher Communication

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	95	21.7	21.7	3.50	4	.9	95.4
.25	111	25.4	47.1	3.75	3	.7	96.1
.50	61	14.0	61.1	4.00	3	.7	96.8
.75	23	5.3	66.4	4.25	1	.2	97.0
1.00	40	9.2	75.5	4.50	2	.5	97.5
1.25	27	6.2	81.7	4.75	1	.2	97.7
1.50	11	2.5	84.2	5.25	2	.5	98.2
1.75	2	.5	84.7	5.50	1	.2	98.4
2.00	18	4.1	88.8	5.75	1	.2	98.6
2.25	8	1.8	90.6	6.25	2	.5	99.1
2.50	3	.7	91.3	6.75	1	.2	99.3
2.75	5	1.1	92.4	10.00	1	.2	99.5
3.00	6	1.4	93.8	11.50	1	.2	99.8
3.25	3	.7	94.5	15.00	1	.2	100.0

Enrichment and Motivation

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	157	35.9	35.9	12.25	1	.2	88.8
.25	1	.2	36.2	12.75	1	.2	89.0
.50	11	2.5	38.7	13.00	2	.5	89.5
.75	4	.9	39.6	13.75	1	.2	89.7
1.00	27	6.2	45.8	14.00	3	.7	90.4
1.25	5	1.1	46.9	14.25	1	.2	90.6
1.50	32	7.3	54.2	14.50	1	.2	90.8
1.75	7	1.6	55.8	15.00	1	.2	91.1
2.00	14	3.2	59.0	15.25	2	.5	91.5
2.25	7	1.6	60.6	16.25	1	.2	91.8
2.50	6	1.4	62.0	16.50	1	.2	92.0
2.75	4	.9	62.9	17.50	1	.2	92.2
3.00	15	3.4	66.4	18.00	1	.2	92.4
3.25	4	.9	67.3	18.75	1	.2	92.7
3.50	3	.7	68.0	19.25	1	.2	92.9
3.75	5	1.1	69.1	23.75	1	.2	93.1
4.00	10	2.3	71.4	24.00	1	.2	93.4
4.25	2	.5	71.9	24.50	1	.2	93.6
4.50	8	1.8	73.7	25.75	1	.2	93.8
4.75	3	.7	74.4	27.00	3	.7	94.5
5.00	2	.5	74.8	28.25	1	.2	94.7
5.25	1	.2	75.1	28.75	1	.2	95.0
5.50	4	.9	76.0	30.50	1	.2	95.2
6.00	10	2.3	78.3	33.50	1	.2	95.4
6.25	1	.2	78.5	34.00	1	.2	95.7
6.50	6	1.4	79.9	34.75	1	.2	95.9
6.75	1	.2	80.1	35.75	1	.2	96.1
7.00	9	2.1	82.2	38.75	1	.2	96.3
7.25	3	.7	82.8	39.00	1	.2	96.6
7.50	5	1.1	84.0	39.50	1	.2	96.8
8.00	3	.7	84.7	39.75	1	.2	97.0
8.25	1	.2	84.9	40.50	1	.2	97.3
8.50	2	.5	85.4	41.50	1	.2	97.5
8.75	1	.2	85.6	42.00	1	.2	97.7
9.00	1	.2	85.8	43.00	1	.2	97.9
9.50	1	.2	86.0	52.25	1	.2	98.2
9.75	1	.2	86.3	55.00	1	.2	98.4
10.00	2	.5	86.7	60.25	1	.2	98.6
10.25	1	.2	87.0	60.50	1	.2	98.9
10.50	3	.7	87.6	62.00	1	.2	99.1
10.75	1	.2	87.9	62.25	1	.2	99.3
11.00	1	.2	88.1	64.00	1	.2	99.5
11.50	1	.2	88.3	69.25	1	.2	99.8
12.00	1	.2	88.6	71.00	1	.2	100.0

Enrichment and Motivation: Arts, Crafts, Recreation or Sports Activities

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	185	42.3	42.3	9.00	2	.5	90.8
.25	2	.5	42.8	9.75	1	.2	91.1
.50	16	3.7	46.5	10.00	1	.2	91.3
.75	7	1.6	48.1	10.25	1	.2	91.5
1.00	26	5.9	54.0	10.75	2	.5	92.0
1.25	4	.9	54.9	11.00	2	.5	92.4
1.50	22	5.0	60.0	11.25	1	.2	92.7
1.75	8	1.8	61.8	11.50	3	.7	93.4
2.00	12	2.7	64.5	12.00	1	.2	93.6
2.25	9	2.1	66.6	13.25	1	.2	93.8
2.50	6	1.4	68.0	13.75	1	.2	94.1
2.75	5	1.1	69.1	14.00	4	.9	95.0
3.00	19	4.3	73.5	14.25	1	.2	95.2
3.25	2	.5	73.9	14.50	1	.2	95.4
3.50	3	.7	74.6	14.75	2	.5	95.9
3.75	5	1.1	75.7	15.00	1	.2	96.1
4.00	13	3.0	78.7	15.25	1	.2	96.3
4.25	2	.5	79.2	16.00	1	.2	96.6
4.50	5	1.1	80.3	16.75	1	.2	96.8
4.75	3	.7	81.0	17.25	1	.2	97.0
5.00	4	.9	81.9	18.00	1	.2	97.3
5.25	1	.2	82.2	19.25	1	.2	97.5
5.50	4	.9	83.1	19.50	1	.2	97.7
6.00	8	1.8	84.9	22.25	1	.2	97.9
6.50	6	1.4	86.3	23.50	1	.2	98.2
6.75	2	.5	86.7	24.00	1	.2	98.4
7.00	7	1.6	88.3	26.00	1	.2	98.6
7.25	1	.2	88.6	27.75	1	.2	98.9
7.50	2	.5	89.0	32.75	1	.2	99.1
8.00	3	.7	89.7	34.00	1	.2	99.3
8.25	1	.2	89.9	39.50	1	.2	99.5
8.50	1	.2	90.2	45.75	1	.2	99.8
8.75	1	.2	90.4	50.00	1	.2	100.0

Enrichment and Motivation: Field Trips Not Related to Career Exploration or Higher Education

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	366	83.8	83.8	14.00	1	.2	94.7
.50	1	.2	84.0	15.00	1	.2	95.0
1.00	2	.5	84.4	16.00	1	.2	95.2
1.25	1	.2	84.7	17.00	1	.2	95.4
2.00	5	1.1	85.8	18.00	1	.2	95.7
2.50	1	.2	86.0	19.75	1	.2	95.9
3.00	6	1.4	87.4	20.00	1	.2	96.1
3.50	5	1.1	88.6	21.00	1	.2	96.3
4.00	2	.5	89.0	22.00	1	.2	96.6
5.00	3	.7	89.7	22.50	2	.5	97.0
5.50	1	.2	89.9	23.00	1	.2	97.3
6.00	1	.2	90.2	28.00	2	.5	97.7
7.00	4	.9	91.1	32.50	1	.2	97.9
7.25	2	.5	91.5	33.00	1	.2	98.2
8.00	5	1.1	92.7	35.50	1	.2	98.4
8.50	1	.2	92.9	36.50	1	.2	98.6
9.00	2	.5	93.4	38.00	1	.2	98.9
11.00	1	.2	93.6	38.50	2	.5	99.3
11.50	2	.5	94.1	40.50	1	.2	99.5
13.50	2	.5	94.5	55.00	2	.5	100.0

Enrichment and Motivation: Awards and Recognition

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	387	88.6	88.6	1.50	29	6.6	98.6
.25	3	.7	89.2	2.00	1	.2	98.9
.50	5	1.1	90.4	2.75	3	.7	99.5
.75	1	.2	90.6	3.00	2	.5	100.0
1.00	6	1.4	92.0				

Enrichment and Motivation: Other

Number of Hours	Frequency	Percent	Cumulative Percent
.00	436	99.8	99.8
3.00	1	.2	100.0

Assessment and Orientation

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
1.00	7	1.6	1.6	3.00	40	9.2	95.0
1.25	1	.2	1.8	3.25	7	1.6	96.6
1.50	1	.2	2.1	3.50	6	1.4	97.9
1.75	1	.2	2.3	3.75	4	.9	98.9
2.00	270	61.8	64.1	4.00	2	.5	99.3
2.25	34	7.8	71.9	4.25	2	.5	99.8
2.50	40	9.2	81.0	5.00	1	.2	100.0
2.75	21	4.8	85.8				

Other

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
.00	383	87.6	87.6	4.00	1	.2	97.5
.25	1	.2	87.9	4.25	1	.2	97.7
.50	12	2.7	90.6	4.50	2	.5	98.2
1.00	12	2.7	93.4	5.00	1	.2	98.4
1.50	5	1.1	94.5	5.50	2	.5	98.9
2.00	5	1.1	95.7	6.00	2	.5	99.3
2.50	1	.2	95.9	7.00	2	.5	99.8
3.00	2	.5	96.3	8.50	1	.2	100.0
3.50	4	.9	97.3				

Total Number of Hours

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
4.25	1	.2	.2	20.50	3	.7	32.5
5.75	1	.2	.5	20.75	3	.7	33.2
6.25	1	.2	.7	21.00	3	.7	33.9
7.75	3	.7	1.4	21.25	4	.9	34.8
8.00	2	.5	1.8	21.50	2	.5	35.2
8.50	2	.5	2.3	21.75	2	.5	35.7
9.25	1	.2	2.5	22.00	5	1.1	36.8
9.50	1	.2	2.7	22.25	2	.5	37.3
10.00	1	.2	3.0	22.50	2	.5	37.8
10.25	1	.2	3.2	22.75	5	1.1	38.9
10.50	4	.9	4.1	23.00	4	.9	39.8
10.65	1	.2	4.3	23.50	3	.7	40.5
10.75	2	.5	4.8	23.75	2	.5	41.0
11.25	2	.5	5.3	24.25	3	.7	41.6
11.50	5	1.1	6.4	24.50	7	1.6	43.2
11.75	1	.2	6.6	24.75	4	.9	44.2
12.00	7	1.6	8.2	25.00	3	.7	44.9
12.25	3	.7	8.9	25.25	3	.7	45.5
12.75	3	.7	9.6	25.50	2	.5	46.0
13.00	3	.7	10.3	25.75	4	.9	46.9
13.25	2	.5	10.8	26.00	5	1.1	48.1
13.50	2	.5	11.2	26.25	1	.2	48.3
13.75	3	.7	11.9	26.50	1	.2	48.5
14.00	3	.7	12.6	26.75	4	.9	49.4
14.25	1	.2	12.8	27.00	1	.2	49.7
14.50	4	.9	13.7	27.25	1	.2	49.9
14.75	1	.2	14.0	27.50	4	.9	50.8
15.00	4	.9	14.9	27.75	6	1.4	52.2
15.25	2	.5	15.3	28.00	6	1.4	53.5
15.50	4	.9	16.2	28.25	1	.2	53.8
15.75	3	.7	16.9	28.50	2	.5	54.2
16.00	1	.2	17.2	28.75	2	.5	54.7
16.25	4	.9	18.1	29.00	3	.7	55.4
16.50	2	.5	18.5	29.25	3	.7	56.1
16.75	3	.7	19.2	29.50	2	.5	56.5
17.00	3	.7	19.9	29.75	3	.7	57.2
17.25	1	.2	20.1	30.00	2	.5	57.7
17.50	4	.9	21.1	30.25	2	.5	58.1
17.75	3	.7	21.7	30.50	2	.5	58.6
18.00	3	.7	22.4	30.75	3	.7	59.3
18.25	4	.9	23.3	31.00	2	.5	59.7
18.50	5	1.1	24.5	31.25	1	.2	60.0
18.75	2	.5	24.9	31.50	1	.2	60.2
19.00	3	.7	25.6	31.75	6	1.4	61.6
19.25	4	.9	26.5	32.00	2	.5	62.0
19.50	5	1.1	27.7	32.25	1	.2	62.2
19.75	3	.7	28.4	32.50	1	.2	62.5
20.00	5	1.1	29.5	32.75	2	.5	62.9
20.25	10	2.3	31.8	33.25	2	.5	63.4

Total Number of Hours continued

Number of Hours	Frequency	Percent	Cumulative Percent	Number of Hours	Frequency	Percent	Cumulative Percent
33.50	2	.5	63.8	49.00	2	.5	84.4
33.75	2	.5	64.3	49.25	1	.2	84.7
34.00	1	.2	64.5	49.75	1	.2	84.9
34.75	2	.5	65.0	50.00	1	.2	85.1
35.00	2	.5	65.4	50.25	1	.2	85.4
35.50	1	.2	65.7	50.50	1	.2	85.6
35.75	3	.7	66.4	51.00	2	.5	86.0
36.00	2	.5	66.8	52.50	2	.5	86.5
36.25	4	.9	67.7	53.25	1	.2	86.7
36.50	4	.9	68.6	53.75	1	.2	87.0
36.75	1	.2	68.9	54.00	1	.2	87.2
37.00	3	.7	69.6	54.75	2	.5	87.6
37.25	2	.5	70.0	55.50	1	.2	87.9
37.50	3	.7	70.7	55.75	1	.2	88.1
37.75	1	.2	70.9	56.00	1	.2	88.3
38.00	2	.5	71.4	57.25	1	.2	88.6
38.50	2	.5	71.9	58.00	1	.2	88.8
39.00	1	.2	72.1	58.25	2	.5	89.2
39.25	1	.2	72.3	59.25	2	.5	89.7
39.50	1	.2	72.5	59.75	2	.5	90.2
39.75	4	.9	73.5	60.00	1	.2	90.4
40.25	3	.7	74.1	62.25	1	.2	90.6
40.50	2	.5	74.6	63.50	1	.2	90.8
40.75	1	.2	74.8	64.25	1	.2	91.1
41.00	1	.2	75.1	64.50	1	.2	91.3
41.25	3	.7	75.7	64.75	1	.2	91.5
41.50	1	.2	76.0	65.00	1	.2	91.8
41.75	1	.2	76.2	65.50	1	.2	92.0
42.00	1	.2	76.4	65.75	1	.2	92.2
42.25	1	.2	76.7	66.25	1	.2	92.4
42.50	1	.2	76.9	68.25	1	.2	92.7
42.75	2	.5	77.3	68.50	1	.2	92.9
43.00	1	.2	77.6	71.25	1	.2	93.1
43.25	1	.2	77.8	72.00	1	.2	93.4
44.00	4	.9	78.7	73.00	2	.5	93.8
44.25	1	.2	78.9	73.25	1	.2	94.1
44.50	2	.5	79.4	74.00	1	.2	94.3
44.75	1	.2	79.6	75.75	1	.2	94.5
45.00	1	.2	79.9	77.50	2	.5	95.0
45.50	1	.2	80.1	79.00	1	.2	95.2
45.75	2	.5	80.5	80.75	1	.2	95.4
46.25	1	.2	80.8	84.00	1	.2	95.7
46.50	2	.5	81.2	84.75	1	.2	95.9
47.00	3	.7	81.9	85.50	1	.2	96.1
47.25	1	.2	82.2	87.00	1	.2	96.3
47.50	2	.5	82.6	93.50	1	.2	96.6
47.75	2	.5	83.1	97.00	1	.2	96.8
48.00	2	.5	83.5	99.25	1	.2	97.0
48.25	2	.5	84.0	102.75	1	.2	97.3

Total Number of Hours Continued

Number of Hours	Frequency	Percent	Cumulative Percent
103.25	1	.2	97.5
105.00	1	.2	97.7
122.00	1	.2	97.9
127.75	1	.2	98.2
149.25	1	.2	98.4
158.75	1	.2	98.6
163.25	1	.2	98.9
168.00	1	.2	99.1
182.00	1	.2	99.3
184.25	1	.2	99.5
221.50	1	.2	99.8
228.25	1	.2	100.0

APPENDIX F: BIVARIATE CORRELATIONS AMONG INDEPENDENT VARIABLES

Correlations Between Prior Year Outcomes

		SY2010 Attendance	SY2010 Discipline	SY2010 ELA	SY2010 Math	SY2010 Science	SY2010 SS	SY2010 Promote
SY2010 Attendance	Pearson Correlation	1	.352**	-.219**	-.166**	-.286**	-.223**	-.059
	Sig. (2-tailed)		.000	.000	.001	.000	.000	.235
SY2010 Discipline	Pearson Correlation	.352**	1	-.386**	-.284**	-.411**	-.371**	-.024
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.631
SY2010 ELA	Pearson Correlation	-.219**	-.386**	1	.481**	.518**	.543**	.115*
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.021
SY2010 Math	Pearson Correlation	-.166**	-.284**	.481**	1	.492**	.462**	.118*
	Sig. (2-tailed)	.001	.000	.000		.000	.000	.018
SY2010 Science	Pearson Correlation	-.286**	-.411**	.518**	.492**	1	.592**	.126*
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.012
SY2010 SS	Pearson Correlation	-.223**	-.371**	.543**	.462**	.592**	1	.073
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.145
SY2010 Promote	Pearson Correlation	-.059	-.024	.115*	.118*	.126*	.073	1
	Sig. (2-tailed)	.235	.631	.021	.018	.012	.145	

Correlations Between Student Characteristics

		Total Number Services	Total Number Hours	Gender	Race	SY2011Grade	Years In Program
Total Number Services	Pearson Correlation	1	.500**	-.082	.063	.051	-.035
	Sig. (2-tailed)		.000	.088	.189	.292	.463
Total Number Hours	Pearson Correlation	.500**	1	-.008	-.082	.032	-.007
	Sig. (2-tailed)	.000		.870	.088	.500	.880
Gender	Pearson Correlation	-.082	-.008	1	.013	.052	-.037
	Sig. (2-tailed)	.088	.870		.782	.280	.438
Race	Pearson Correlation	.063	-.082	.013	1	.045	-.077
	Sig. (2-tailed)	.189	.088	.782		.352	.110
SY2011 Grade Level	Pearson Correlation	.051	.032	.052	.045	1	-.018
	Sig. (2-tailed)	.292	.500	.280	.352		.700
Years In Program	Pearson Correlation	-.035	-.007	-.037	-.077	-.018	1
	Sig. (2-tailed)	.463	.880	.438	.110	.700	

* Correlation is significant at the 0.05 level (2-tailed)

**.Correlation is significant at the 0.01 level (2-tailed)

Correlations Between Student Characteristics and Prior Year Outcomes

		Total Number Services	Total Number Hours	SY2010 Attendance	SY2010 Behavior	SY2010 ELA	SY2010 Math	SY2010 Science	SY2010 SS	SY2010 Promote
Total Number Services	Pearson Correlation	1	.500**	-.008	.044	-.088	-.050	-.086	-.118*	-.036
	Sig. (2-tailed)		.000	.870	.358	.077	.321	.084	.017	.454
	N	436	436	436	436	403	404	407	408	436
Total Number Hours	Pearson Correlation	.500**	1	-.053	-.089	.005	.017	.043	.019	.001
	Sig. (2-tailed)	.000		.272	.063	.915	.740	.383	.697	.988
	N	436	436	436	436	403	404	407	408	436
SY2010 Attendance	Pearson Correlation	-.008	-.053	1	.354**	-.216**	-.168**	-.287**	-.225**	-.025
	Sig. (2-tailed)	.870	.272		.000	.000	.001	.000	.000	.602
	N	436	436	436	436	403	404	407	408	436
SY2010 Discipline	Pearson Correlation	.044	-.089	.354**	1	-.384**	-.285**	-.406**	-.368**	-.005
	Sig. (2-tailed)	.358	.063	.000		.000	.000	.000	.000	.925
	N	436	436	436	436	403	404	407	408	436
SY2010 ELA	Pearson Correlation	-.088	.005	-.216**	-.384**	1	.481**	.518**	.543**	.115*
	Sig. (2-tailed)	.077	.915	.000	.000		.000	.000	.000	.021
	N	403	403	403	403	403	402	402	402	403
SY2010 Math	Pearson Correlation	-.050	.017	-.168**	-.285**	.481**	1	.493**	.463**	.118*
	Sig. (2-tailed)	.321	.740	.001	.000	.000		.000	.000	.018
	N	404	404	404	404	402	404	404	404	404
SY2010 Science	Pearson Correlation	-.086	.043	-.287**	-.406**	.518**	.493**	1	.598**	.128**
	Sig. (2-tailed)	.084	.383	.000	.000	.000	.000		.000	.010
	N	407	407	407	407	402	404	407	407	407
SY2010 SS	Pearson Correlation	-.118*	.019	-.225**	-.368**	.543**	.463**	.598**	1	.094
	Sig. (2-tailed)	.017	.697	.000	.000	.000	.000	.000		.059
	N	408	408	408	408	402	404	407	408	408
SY2010 Promote	Pearson Correlation	-.036	.001	-.025	-.005	.115*	.118*	.128**	.094	1
	Sig. (2-tailed)	.454	.988	.602	.925	.021	.018	.010	.059	
	N	436	436	436	436	403	404	407	408	436

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

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